

American
Forest
and
Forest Life



June 1930

The American Forestry Association

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ADEQUATE FOREST FIRE PROTECTION by federal, state, and other agencies, individually and in cooperation; the REFORESTATION OF DENUDED LANDS, chiefly valuable for timber production or the protection of stream-flow; more extensive PLANTING OF TREES by individuals, companies, municipalities, states, and the federal government; the ELIMINATION OF WASTE in the manufacture and consumption of lumber and forest products; the advancement of SOUND REMEDIAL FOREST LEGISLATION.

The ESTABLISHMENT OF NATIONAL AND STATE FORESTS where local and national interests show them to be desirable; the CONSERVATIVE MANAGEMENT OF PUBLIC AND PRIVATE FORESTS so that they may best serve the permanent needs of our citizens; the development of COMMUNITY FORESTS.

FOREST RECREATION as a growing need in the social development of the nation; the PROTECTION OF FISH AND GAME and other forms of wild life, under sound game laws; the ESTABLISHMENT OF FEDERAL AND STATE GAME PRESERVES and public shooting grounds; STATE AND NATIONAL PARKS and monuments where needed, to protect and perpetuate forest areas and objects of outstanding value; the conservation of America's WILD FLORA and FAUNA.

The EDUCATION OF THE PUBLIC, especially school children, in respect to our forests and our forest needs; a more aggressive policy of RESEARCH AND EDUCATIONAL EXTENSION in the science of forest production, management, and utilization, by the nation, individual states, and agricultural colleges; reforms in present methods of FOREST TAXATION, to the end that timber may be fairly taxed and the growing of timber crops increased.

Entered as second-class matter at the Post-office at Washington, D. C., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided in Section 1103, Act of October 3, 1917, authorized July 10, 1918.

Member A. B. C.

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AMERICAN FORESTS AND FOREST LIFE

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Published Monthly—35 cents a copy—\$4.00 a year

Vol. 36

JUNE, 1930

No. 6

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The patient fisher takes his silent stand. . . .
In genial spring, beneath the quiv'ring shade,
Where cooling vapors breathe along the mead,
—Pope.

Fishin'

Like Livin', Takes Patience,
Perseverance an' the
Oil of Sweetness

By CHARLES GRENVILLE WILSON

"FISHIN' is an occupation that requires patience, perseverance an' sweet oil," remarked my friend, the country printer, as he swung his rod inboard and laid it against the stern-sheet of the boat. "I'm goin' to change this Parmichini Belle for a Dusty Miller, for red moths evidently aren't on the trout menu for tonight." With the art of long experience he changed flies, then swinging round in the seat, whipped the feathered bait far out over the waters of Little Minister Pond. Silence hung heavy over the lake and its encircling hills, unbroken save by the soft lap of wavelets against the free board of the boat and the silken whisper of the leaping line. Of a sudden there was a ripple of water, a flash of gold in the sun. A trout had struck!

"Come in here, you little cuss—you need a bit of advisin'." The printer reeled swiftly in and unfastening the tiny speckled thing, tossed it overboard. A swift flip, and he was gone. "You need educatin', you do."

My friend was leaning over the boat, peering down into the translucent depths of jade below. "You're too young, an' entirely too smart an' you jump too quick at the pretty little flashy things you see floatin' round. Go back an' talk with the old folks. They'll wise you up on what not to jump at. You don't see them a-gettin' caught! Why, I haven't taken a respectable fish here in two years. It's always one of you babes."

He meditated for a moment. "Well, I reckon that's enough for tonight. It's gettin' late an' time to be thinkin' of home and vittles."

He got out his battered box of gear and began slowly and thoughtfully to unjoint his rod.

"This, to my way of thinkin', is the finest time of the day. It's so almighty peaceful. I always wish I was a poet when



—The Arrowhead Association.

The night was riding in like a centaur, and the hills had begun to turn a deep purple

it comes sunset in the woods so's I could write a poem, a lovely hymn that'd put the peace of God into the heart of every man, woman an' child that read it. I'd put this pond in it to give it the color of the sunset, an' the calm of still waters. I'd put the white birches in to give it grace, an' the pines for fragrance. An' I'd put those hyacinth mountains in to give it the strength an' majesty of the eternal hills."

It was growing dark swiftly now. The mountain night was riding in like a centaur, and the hills had begun to turn a deep purple. In the nearby forest the pine trees were like pools of ink among the yellowed birches, and from the waters the mist was curling upward like the smoke from incense fires. Still my friend made no move to take up the oars. He sat there in the stern rapt in his thoughts, his shapeless

coat and frayed hat limned against the eastern sky where the young moon was soaring up.

"Fishin' is like livin'," he finally broke in. "They both take patience, perseverance an' the oil of sweetness. You start out young an' fresh, an' cast your bait here an' there with a vigorous arm. Always there's the lure of the big fish in the deep pool. To some it's a house and servants on Fifth Avenue, an' to others it's a diamond tiara an' space in the Almanac de Gotha. So you cast an' cast, change flies an' try again. Bad luck, worse luck, no luck at all—you jest

keep on tryin'. An' very often you *don't* get the fish. But—if you've had patience, perseverance an' the oil of sweetness about you, you end up with somethin' better than the fish. Like us tonight. We've got no fish, but we've drenched ourselves with beauty an' the peace of God."

He took up the oars and swiftly sculled the boat to shore. As its nose grated on the shingle he leaped out and tugged on the painter.

"An' I'm glad I sent that little cuss home to be educated. There ain't no sport in catchin' fish—it's all in the tryin'."



Why Try To Tell of Mountains?

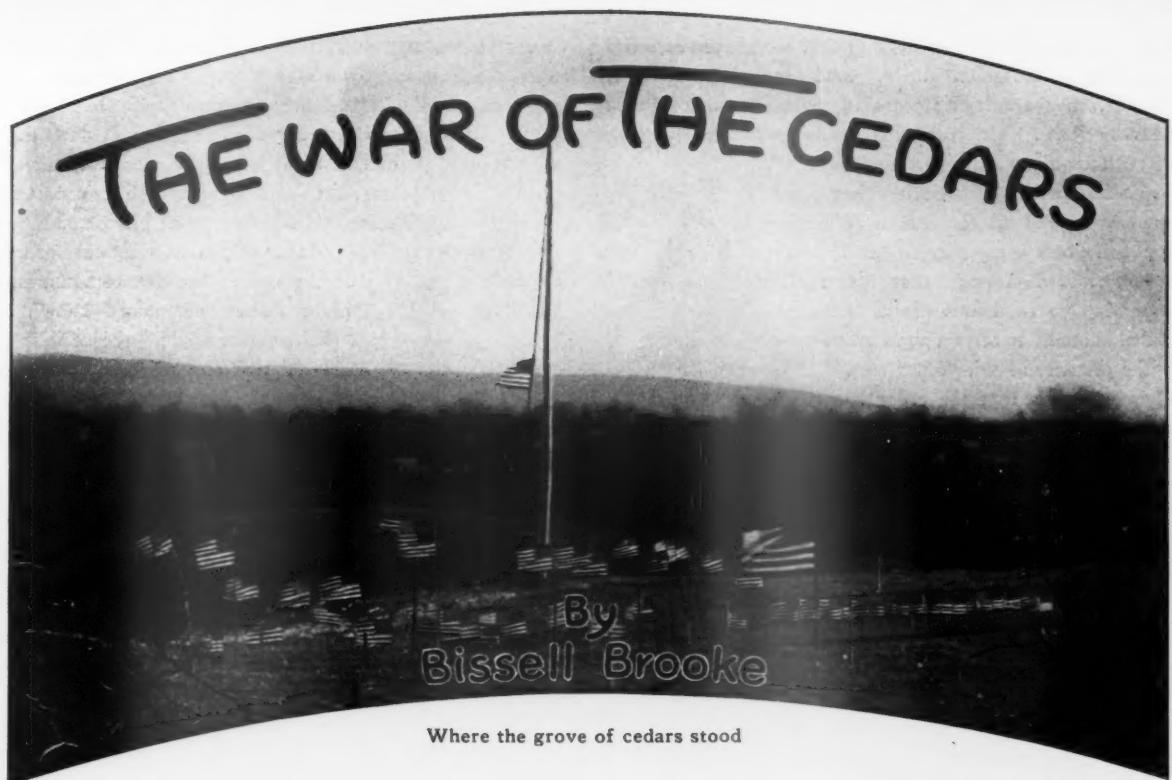
ETHEL ROMIG FULLER

Why try to tell of mountains?
No human tongue can give
More glory or more substance
To the superlative.

(How trivial is "lovely!"
How meaningless "O white!"
Before consummate beauty
And sheer stupendous height.)

There is no gifted linguist
Can paraphrase a crowd
Of Godheads who foregather
Among the stars, unbowed.

Nor eloquence to measure—
When æons are a breath—
The peaks that live unaging,
When Kings go down to death.



The Dramatic Story of West Virginia's Fight For and Against the Cedar

THE Shenandoah Valley, which figures colorfully in the history of the United States, concerning the beauty of which books, songs, and poems have been written, is now in mourning. Its peace-loving people are sad.

It is the only spot in the world where a nation's flag floats at half-mast in memory not of man, made in the image of God, but of trees made in His wisdom.

The reason is that all the cedar trees, many of them centuries old, are threatened with extinction. Hundreds of thousands already have been laid low, and many more thousands are due to feel the sharp blow of the ax. This destruction is the work of citizens—a small group of orchardists in the valley.

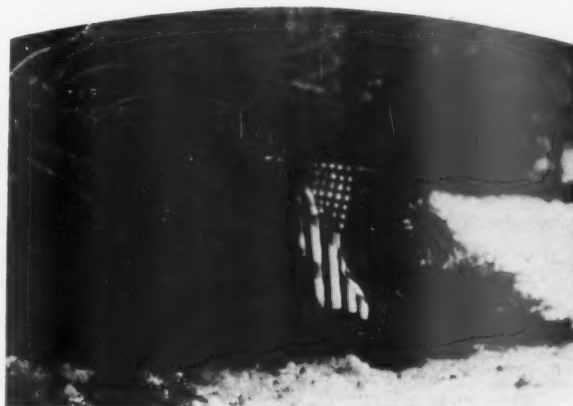
At Shepherdstown, West Virginia, directly across the Potomac River from the bloody battlefield of Antietam, another battle is being waged. Property-owners, farmers, and the majority of orchardists are fighting to save the cedars. Consequently, a very exciting war has followed, and the outcome is still to be known.

This battle that has divided the community of Shepherdstown into factions and demolished friendships and relationships that have existed for generations, can be laid directly to the presence of "cedar rust" among the apple orchards of the Shenandoah Valley. It has affected certain varieties of apples, and entomologists have traced its origin—to their own satisfaction, at least—to the cedars that lend their beauty and dignity to the hillsides, and fence lines in the valley.

A recent statute of the State of West Virginia provides that "ten freeholders" are enabled to band together and decree

that suspected cedars must be destroyed. Hundreds of thousands of these trees have been hewn to the ground, and the most interesting and colorful episodes in this battle have been created through the efforts of those who own the cedars to save them from the ax. Women have joined in the fight and they have even brought the American flag into use and draped its sacred folds over the mighty boughs of the evergreens in an effort to save them.

The "ten freeholders"



A combatant cedar, laid low, carrying the flag bravely in its topmost branches

have had the better of the battle in that they have succeeded in having the cedars cut down. And now, elated by their victories, they are laying plans to make the fight against cedars national. The cedar destruction movement is spreading from state to state and the West Virginia Horticultural Society has actually endorsed a proposal for federal legislation that will affect every state in the Union. Some orchardists say that damage amounting to thousands of dollars is caused annually to certain apple crops by the presence of this "cedar rust." They point out that the cedar has no crop or food value, and for this reason should be made to give way before certain varieties of apple trees.

In this matter, however, they are meeting with great opposition. Authorities are numerous who are not satisfied that the "cedar rust" can be traced entirely to the cedar tree. Some of the most uniformly successful orchardists in the Shepherdstown district do not believe that the cedar is responsible. They also point out that should orchardists be successful in eradicating the evergreens, their destruction would prove a boom-crang. The robin, which they say is the greatest ally of the orchardists, in that it feeds on the insects that attack the apple blossoms, nests in the cedar tree because it is the only tree that offers foliage for shelter when they first appear in the spring. No place for the robins to nest would mean no attack to destroy the insects.

Is it to be the cedar or the apple? A

violent controversy over this question is now going on between the Shepherdstown save-the-cedar army and the "ten freeholders," who caused the enforcement of the "Cedar Rust' Eradication Law." The law itself states that:

"It shall be unlawful within this state for any person, firm or corporation to own or keep alive and standing upon his premises any red cedar tree or trees, which are or may be the source for the communicable plant disease commonly known as 'rust' of the apple." Since it is alleged that any red cedar, although perfectly healthy at the time, may become the source of infection, it has been the practice to cut down all the cedars in any neighborhood regardless of their condition.

The law provides further that upon the request in writing of "ten freeholders" of any county, the state officials are given the power to destroy all the cedar trees within a radius of three miles of any orchard. The orchardist does not have to be informed that he is a complainant. The power of destruction thus given to ten men, who need not be orchardists but any group of "freeholders," is absolute, regardless of the opposition, should they be opposed by all the rest of the people within any given locality, district or county.

The opponents of the law are reasonable in that they favor amendment of the law to make it applicable only by districts rather than to be state wide. It has been pointed out that if the law is not amended or repealed, the apple-



In the war on the cedars, Serena K. Dandridge makes a vain but valiant effort to stop the cutting by placing the American flag on the doomed trees



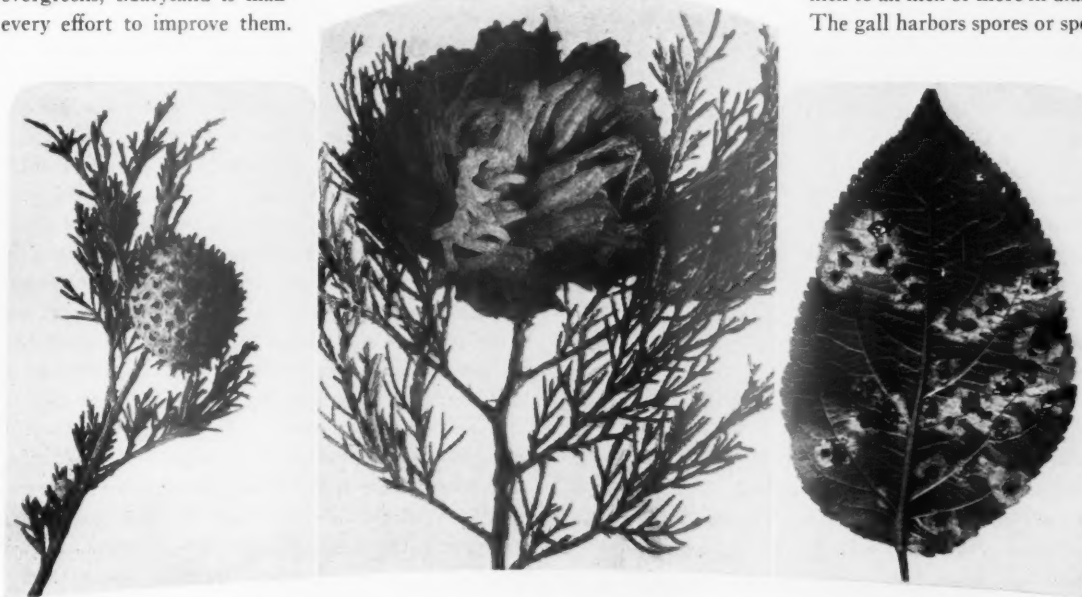
After cutting—The fallen cedars on the Dandridge property at Shepherdstown

growing industry may be seriously affected by it. Opposition to apples grown in West Virginia would be aroused elsewhere. Already there are rumbles of disapproval concerning the cedar destruction in fifteen states.

The feelings of the neighboring state of Maryland for her cedars is conspicuously different from that of West Virginia. In Hagerstown, Maryland, which is directly across the Potomac from Shepherdstown, there has been an ardent campaign to prevent the use of evergreens for decorative purposes at Christmas or any other time. Both citizens and municipal authorities have tried to discourage the cutting of any cedars. Instead of destroying her evergreens, Maryland is making every effort to improve them.

juniperi-virginiana. It appears in the spring before the trees begin to blossom, and lasts for a period of five or six weeks. It is found mainly east of the Great Plains area, and also extends from New Brunswick to British Columbia on the north, and to Texas, New Mexico and Arizona on the south. It affects mainly three varieties of apples: the York Imperial, the Jonathan and the Rome Beauty, although it has attacked a number of the other varieties.

The origin of "cedar rust" is believed by scientists to be found in the little brown galls which form on the cedar trees in the spring. These galls vary in size, the Department states, from one-fourth of an inch to an inch or more in diameter. The gall harbors spores or sporidia,



Progressive stages of "cedar rust"—the cause of the trouble. First, little brown galls form on the cedar trees in the spring following infection and harbor the spores until the second spring. Then, orange-colored gelatinous masses of spores exude from the gall and are thrown off during rainy spells for about six weeks. The sporidia attack young, newly-formed leaves of apple trees, producing the thickened, orange-colored spots, which give the disease its name of cedar rust

"Cedar rust" is a comparatively new plant disease, according to the United States Department of Agriculture. In fact, little was known about it until this century. The cultivated apple introduced from Europe was grown in Virginia, alongside the red cedars as well as the crabapples, for nearly three hundred years without anything serious happening; and there was also the same experience during the last one hundred years in the upper Mississippi Valley. Occasionally, it is pointed out, an apple tree was found with a few spots of the orange-colored rust on its leaves. The Pryor Red variety was attacked by this disease, but it was not an important commercial variety of apple, so little notice was taken of it. The Department says that "except on the Pryor Red and a few localized attacks on other apples, the disease was not abundant enough to be of economic importance until the beginning of this century."

This "cedar rust" or "apple rust," as it is sometimes called, is a plant disease or fungus known as *gymnosporangium*

which carry the disease and are such light particles that they can be blown from one-half mile to four miles by the wind.

The galls begin to exude orange-colored, gelatinous masses of spores and form their secondary spores during the first rain after the tree reaches the pink-bud stage. They continue to throw off sporidia each rainy spell for about six weeks. These sporidia cannot attack the red cedar but can only grow on the apple and its relatives. They can attack only young, newly formed leaves within a few days after they are expanded. After a fungus, thread-forming spore succeeds in entering an apple leaf it produces a visible, orange-colored, thickened spot. This spot grows to about one-eighth or one-fourth of an inch in diameter. The fruit itself also occasionally has the orange spots, thus the foliage and the fruit are given a rusty appearance. This disease does not affect the taste of the apple, only its appearance and its powers of reproduction.

Although such a law was passed in their state, the people

of the district which was later to suffer from it most did not realize the seriousness of the situation. Two years later when cedars in other sections of West Virginia began to be hewn to the ground in great numbers the residents of Shepherdstown decided among themselves to have an unwritten but hard-fast agreement never to complain about the "cedar rust" that attacked their orchards and always to safeguard their cedars, especially as these evergreens grew among the rock brakes and on the steep and rugged hillsides along the Potomac where it would be difficult and often impossible to grow any other trees.

Unknown to most of the citizens of Shepherdstown the necessary "ten freeholders" banded together and ordered the enforcement of the "Cedar Rust" Eradication Law.

The actual cutting of the cedars was stopped by injunctions. Immediately a petition was circulated and signed by 1,100 residents of the neighborhood to have the law amended in that the cedars should be kept where their value was greater than the orchard involved. But this had no effect.

A fragile old lady, Miss Sue M. Lemen, made an unsuccessful attempt in 1929 to have the law repealed. Although in poor health, she made a vigorous protest against allowing the state entomologists to cut down the cedars on her ten acres. After the Jefferson County Circuit Court of West Virginia upheld the right of the state authorities to direct destruction of red cedars on the Lemen property, the owner took it to the supreme court of the state. There it was also upheld.

One of Miss Lemen's strongest points in litigation was that the State of Maryland has no such statute, and that destruction of trees on the south bank of the Potomac in West Virginia will not prevent the spread of "cedar rust" from the Maryland evergreens, only a few hundred feet away on the opposite bank. On this point the court ruled that: "It is an accepted principle that the existence of a nuisance may not be justified by the fact that there are other similar nuisances in the vicinity."

This decision immediately inspired the radical group of orchardists. With the cooperation of the West Virginia Horticultural Society, they have instituted a movement for federal legislation, which would make it possible for small groups to order the destruction of cedar trees anywhere in the Union.

The fact that the law gives no compensation whatever to those who suffer the loss of their evergreens, has brought up the contention that the law was passed in utter disregard of the fundamental principles underlying the American system of law and jurisprudence as well as the spirit of the Federal Constitution in that:

No effort is made by the advocates of the evergreen destruction to agree beforehand with property owners upon the value of the property to be destroyed, either through court proceedings or a condemnation board; and that the destroyed evergreens are permitted to fall where they will and lie where they fall, to the damage of the land, placing upon the owners the burden of removal. Only by filing suit against the state can damages be demanded, and the law provides that the

value of the trees in themselves or their value to the property in question is not to be considered.

The vigorous and valiant attempts of the 1,100 petitioners of Shepherdstown to save their cedars from the ax were not without many exciting and colorful episodes.

An organization known as the Farmers' Alliance was formed in an effort to save the trees. Individual citizens, clubs and societies gave their whole-hearted support to the cause, using every conceivable method and ruse to prevent or even delay the mass slaughter of the evergreens.

From the very beginning the ire of the people was aroused when the first cedars were cut in violation of the very conditions stated in the "Cedar Rust" Eradication Law. Although the law says, "The state entomologist, or his assistant, shall give notice in writing to the owner or owners of said cedar trees to destroy the same," the state entomologist and his crew of cutters arrived one morning at the home of a citizen and announced they were going to cut every cedar on the property. They did. And another section of the law was violated, as even the cedars in the dooryard were cut. The law states that if the state entomologist sees fit to treat any cedars "especially ornamental trees in dooryards, graveyards, parks, and cemeteries in such a way as to render them harmless," he may leave them untouched provided that the owner promises to carry out the prescribed treatment.

After this action two residents obtained injunctions against any cedar cutting on their property as they wished to save the trees about their houses and on their front lawns. The state entomologist immediately promised to allow those trees to remain standing if they would permit others to be cut.

When cutting was begun on the Lemen property the people became frantic. All appeals to representatives of the law in Shepherdstown, Charlestown and Martinsburg had proved futile. As a last resort Miss Serena Katherine Dandridge, a prominent artist, decided to go to Charleston and secure from the supreme court an injunction against all cutting.

The story of Miss Dandridge's 400-mile ride through the mountains at night by herself in an effort to save the evergreens, will long be remembered. She left Shepherdstown early one morning and late that afternoon had secured the injunction against cutting any cedars in her district. On her return trip to serve the injunction her car was wrecked and she was forced to walk five miles for aid, through a cold blustery rain.

While the injunction stopped all cutting for 1929, the cedar was doomed the very next year. Thus the remaining five acres of cedars on the Lemen property were to be hewn to the ground. When all other attempts to save the trees had failed, it was suggested that the sacred folds of the American flag be draped over the sturdy boughs of the larger trees. It was intended as an appeal to the spirit of the Federal Constitution as originally conceived and put into operation by the founders of the Republic.

The flag suggestion was carried out immediately, and with much enthusiasm and hope. Miss Dandridge soon had Old Glory waving proudly from the tops of the cedars on her property. The axmen started to take the flags from the trees

but were informed by officers of the law that they had no right to touch the flag but could cut the trees with the flags on them.

Miss Dandridge then had the state crew of cutters working on her property arrested. After promising not to return and cut more trees, the men were set free until the case was to be tried. The cutters did not keep their word, and the next morning Miss Dandridge saw the axmen laying low the cedars.

Thus began a remarkable as well as a memorable day for the artist. Her methods were simple but effective. She went up to one tree that was being cut and placed herself between the tree and the ax. The workmen fumed and pleaded, but they could do nothing but move on to another tree.

There were fourteen men cutting, and the task of trying to keep all of them from work kept Miss Dandridge quite busy. She varied her procedure by seizing tools. In the afternoon she abandoned the active work of interfering with the cutters and took up her post at the base of a magnificent cedar tree. She was determined to save at least one of the big evergreens. The patience of the cutters was becoming sorely tried. The perplexing question was when would Miss Dandridge move from her post, so that cedar, too, could be cut.

One by one, through the day the cedars came thudding to earth. Many of them had flying in their upper branches the American flag, which had failed to save them from slaughter. The nearer the cutters cleared the way in the direction of the tree which Miss Dandridge was trying to protect, the higher became the speculation of how she would be removed so that the tree could be cut. Finally in the early twilight of the winter afternoon Miss Dandridge's embrace was loosened. Her fingers were unlaced, her arms unclasped from

about the tree, and she was moved to safety. Instantly the cutters fell upon the last of the lot, a splendid forty-foot specimen, with Old Glory floating bravely from its topmost branch.

Determined to have the American flag flying over her land, Miss Dandridge had a tall flag-pole erected in the center of the field. The flag was placed at half-mast, as it remains today. Beneath it on the ground are forty-eight smaller American flags, representing the States of the Union.

This wholesale destruction of valuable trees smacks decidedly of stupidity. In many instances the cedars are the only trees on farms and estates. It is also to be considered that many of these cedars have been growing for a century or more while an orchard can be developed in seven or eight years.

The cedar is of great value in protecting and preserving bird life. It produces a very large quantity of berries and as these berries hang on the trees until very late in the season, the trees furnish a reserve food supply that is exceedingly important when other available food has been exhausted or when the ground is covered with snow. In some sections the cedar berry is the only food that the robin has until the apple trees put forth their leaves and become a seething mass of insects. The cedar also renders great protection to birds. Its foliage is dense and compact and so furnishes an ideal shelter from winds and storms as well as a refuge from the birds' predatory enemies.

It has been proposed that a memorial be erected to the slaughtered evergreens—a memorial that will show the relation between America's most distinctive evergreen and the protection and maintenance of bird life. Authors and artists have made suggestions but no decision has been reached. The flag at half-mast still remains the only memorial.

Capital Inspects Association's Famous Exhibit Truck

Official Washington on April 13 was given an opportunity to inspect the special forestry exhibit truck of the Southern Forestry Educational Project of The American Forestry Association. Nearing the end of a tour of the East and South which has carried it more than 4,000 miles in little more than a month, the educational unit, the only one of its kind in the country, was inspected by a Congressional group interested in forest conservation, among them Senators Trammell, of Florida, Oddie, of Nevada, and Ransdell, of Louisiana, and Representatives Scott Leavitt, of Mon-

tana, and Sandlin, of Louisiana. Officials of the Forest Service and other departments also inspected the truck.



Senator Trammell, of Florida (center), and Representative Leavitt, of Montana (right), examining the forestry exhibit truck. E. P. Simmons, lecturer, at extreme left

Leaving Florida early in April, the truck, in charge of E. P. Simmons, has been on display at the Southern Forestry Congress, at Memphis, the annual conference of the Izaak Walton League of America, at Chicago, and the annual meeting of The American Forestry Association, at Minneapolis. In addition it has exhibited in most of the large cities, colleges and universities, and in many rural communities of the South, Middle West and East.

Bird-Sketching

By GEORGE MIKSCH SUTTON

THERE is an object of rare beauty lying on my table—a dead screech owl, limp and lax. It was found in the snow yesterday. The feathers are so soft that to stroke them, as I always must, brings to mind the gentlest things I have ever known—the wings of an unfolding *Promethea* moth, pansy petals, warm spring winds. As I move the body, I note the infinite ease with which the feathers adjust themselves, and wonder that as I spread the flight feathers of the wing and let them go, I hear not the slightest sound. Unwittingly I blow the feathers a bit, just to see them wave or to watch them take their place in the pattern of breast, back, or wing.

The colors of the bird interest me at once, because they tend toward the shades dominant in the red phase of screech owl plumage; yet the dark markings are everywhere plainly those of a gray phase bird. My mind springs for a second or two into the mysterious realm of dichromatism; and then, contrite, returns, eager

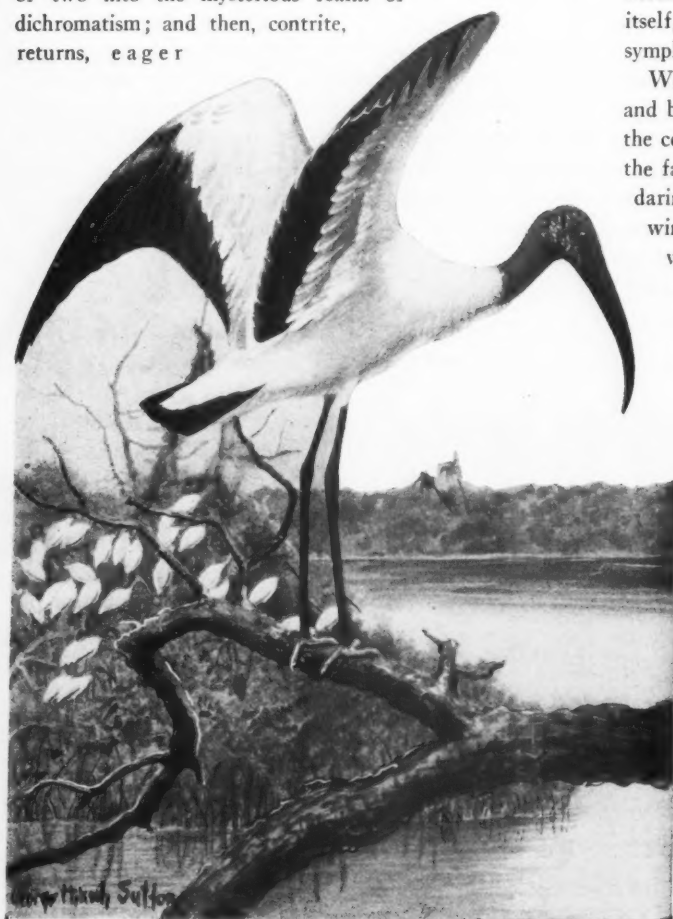


Herring Gull—in the plumage of the first year

simply to experience the joy of observation. Those spidery patterns on the breast! How could they ever have evolved? Here I catch the glint of old white silk, there the dull sheen of brown fur, the finest traceries of frosty whiteness, and borders of lichen gray. Each feather is a chord of color in itself, and the patterns which they form together are a symphony.

When I move the feathered lids to open the great eyes, and behold the sad-sweet expression which seems to pervade the countenance of every dead bird, there comes to my mind the face of the living owl. Defiant that living face is, with daring learned of the chase, beauty of the pale moon and wintry nights, and vitality of the crisp open air. I toy with the dead owl's claws, and in my reverie feel two soft pads where my little screech owl pets used so often to perch, as with closed eyes they ran their bills along my sleeve begging for food. A dead bird is a thing of beauty, to be sure, but it is the living organism which excites our deepest admiration. The living bird is so vivid, its face so intelligent, its movements so graceful, that it reviews for us the miracle of creation. Is it any wonder, as we study the creature, that we want to record its grace, its color, its vitality, on paper or canvas?

My desire for intimate, accurate bird portraits has led me into some amusing, exciting, and even dangerous experiences. At once there comes to mind my first portrait of a red-tailed hawk. From the very outset of my dealings with that bird it was obvious that he had no such lofty ideas about bird portraiture as I. He scratched viciously, and in the course of his efforts to rid himself of me broke a plate upon which I mixed colors, and gashed my hand with his claws. Finally I wrapped him in a big bath towel, tied his muscular feet together, and laid him on the table. He posed beautifully. In fact, in his towel, he was one of the best sitters I ever had, for aside from the oc-



The Wood Ibis—at home at 'Gator Lake in Florida

casional flickering of the nictitating membrane across his eye, and a momentary closing of his bill, he was motionless. But he did not look either happy or normal. His mouth was open wide, and his tongue stuck far out in a perpetual grimace. I have learned since that this is the usual manner of hawks. And furthermore, though their bills look savage, they almost never bite, preferring to use their sharp claws as weapons of defense.

This hawk was apparently resting easily, and the portrait almost completed, when, without a wink of eye as warning, he shot free of the towel, scattered paints, brush, water, and other accessories with one wing, gave me a staggering whack with the other, and plunged in an orgy of wild destruction all over the room. Pictures fell, a gold-fish bowl crashed, dooming the inmates to a dusty grave; a mounted squirrel was knocked off its shelf, to suffer a broken neck and cracked ears—and all the while the hawk, increasingly furious, was dragging the big towel madly about. Eventually, and I sense relief even in relating this incident, the wide-winged bird made for an open window. I shall never forget the despairing

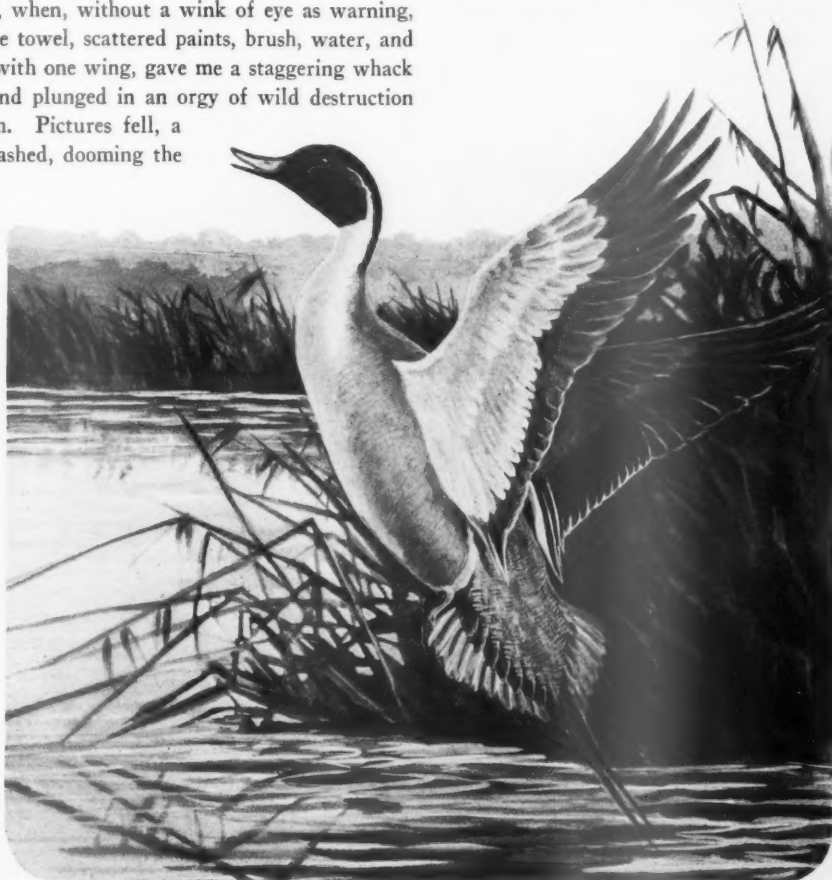
yelp of our neighbor's dog as he caught sight of the swiftly moving bird, followed by the ghostly towel, swerving suddenly toward the ground. The towel shortly fell free; but many, many times I have mentally re-enacted the tying together of the bird's feet, to prove to myself that they were not too securely bound for his comfort and safety.

I remember, too, my first portrait of a baby spotted sandpiper. The tiny creature was so dainty that had it fallen from my hand to the ground there would have been scarcely a sound; yet that bit of down could be in more places in a given minute than any bird guest I ever entertained. How strong his slender legs were! When I held him loosely in my hollowed hands I feared crushing him, and yet I had difficulty in keeping him there. I had opportunity to study the lustrous eyes, and the touching expression on the face of little "tooth-pick-legs." When I finally

liberated him after his portrait was finished, he tottered away among the tall weeds. Owls, as a rule, are good subjects. But their most fascinating expressions are fleeting ones, and I usually have to content myself with drawing them while they are half asleep. I had a big barred owl at one time which was quite tame. I could arrange him in almost any attitude I wished and he might remain just there for half an hour or more. That owl had a most ludicrous expression on his face when I stuck my finger through the

deep, long plumage. His expression seemed to say, "How dare you, sir?"

Among the several hundred life sketches which now stand as a record of my ornithological experiences afield, a little homely drawing of a mother raven on her nest is prized the most. Anyone who knows the raven country in Pennsylvania realizes that the finding of a nest is no easy task. But given the nest, one still has to



Pintail Duck—rising in an Ohio marsh

outwit the crafty birds, if one is to study them intimately. I located a nest, which held five well incubated eggs, in a small niche about a hundred feet up on a rocky cliff. To study the birds from that cliff proved impossible. But there was an overhanging ledge on an opposing cliff where it was possible to survey the whole region. Here I stayed, exposed to rude winds, and for hours awaited the return of the birds. They did not come. They had seen me. I feared they would leave the nest, or that the eggs would chill—and it is still a marvel to me that they did not freeze. This time was not wasted, however, for I learned a good deal of raven lore. Finally, shivering helplessly, I surveyed the situation as best I could, with a new plan in mind. For three-quarters of a mile I cut and scraped a path over and down the rocky ledges to the creek bed below. Every protruding twig was snapped off widely; every rock was scraped



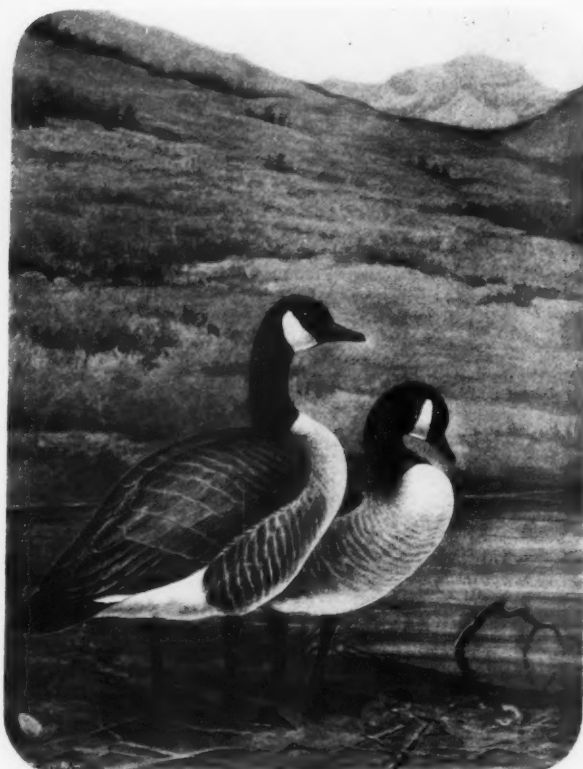
Northern Phalarope, at Indian Harbor, Labrador

clear of the brittle, noisy lichens and every stone was tested to prove its security, or dislodged entirely. I fastened in mind the course of the path, returned to my lonesome supper and sleeping bag and tried to sleep.

It was early the following morning when I roused myself. A light snow had fallen, but after a little brisk jumping about and a drink from the icy stream, I started the glorious journey—without fire or breakfast. How like steel the sky seemed with its falsely glowing stars! But the blood of the explorer was in me, and I was triumphantly happy. Meticulously I threaded my way through the logs, stones and bushes that lined the pathway. At last, and with not yet a hint of dawn in the sky, I was at raven point. I wrapped my coat about me as best I could, but soon I was very cold. I reassured myself with the thought that as long as I felt miserable I was not freezing to death. But somehow, in spite of the eternity of that waiting, dawn came; and when I bent over, on hands and knees too insensate to hold me properly, I did see the mother raven—still asleep. I was too much excited to know whether I was happy, or crazy, or perhaps just frozen. And yet, in spite of my mental foggiess, a sketch pad came out and somehow a

picture appeared on the paper—just a crude hint of black raven, in a sprawling nest, on a rude cliff. A little later the raven awoke. Suddenly the male bird croaked but a short way above me, and the two birds flapped down the gulch, not even knowing, I believe, that I was there.

I like to look over these sketches. They recall a thousand incidents dear to the naturalist's heart. Blue goose drawings recall the wide, opal expanse of shallow James Bay—dotted with a thousand protruding stones and echoing with the high-pitched clamor of myriads of "waivies"; a "flint-head" scrap or two summons to mind the enchanting mangrove border of blue 'Gator Lake, through which gleams the ever-moving water, and countless files of wood ibises; a single laughing gull recalls the flat sands of the Delaware coast on a sulky, uncomfortable day; and a scissors-tail draw-



Canada Geese, in the Yellowstone National Park

ing fairly breathes forth the jolly winds of the Texas staked plains. Today a crippled goshawk, fiery-eyed, vicious, is to be drawn from life. I wonder whether I can put on paper a hint of the fierceness in those gleaming eyes? Can I suggest somehow, the soft, yet firm plumage, with its delicate barring? Every species, every individual bird, presents to the artist-student a series of fascinating problems.

NEW HOME OF THE AMERICAN FORESTRY ASSOCIATION

After June 1 the administrative offices of The American Forestry Association and the editorial, advertising and circulation offices of American Forests and Forest Life Magazine will be located in the American Forestry Association Building, 1727 K St. Northwest, Washington, D. C.

Eagle Scouts—Trail Builders

By WILLIAM C. WESSEL

ON A summer afternoon six years ago, in a khaki pyramid tent pitched beside the Yellowstone River in Yellowstone National Park, a boy was writing a letter. He was using an old box for a desk and the letter was unintelligibly scrawled because of his haste and the heat of the day. Yet it is the only letter now on file at the national offices of the Boy Scouts of America giving a boy's viewpoint of the beginning of work on the Eagle Scout trails.

The beginning of this work in Yellowstone National Park in 1924 opens up hitherto unexplored regions to visitors and to make them more accessible to fire-fighters in case of forest blazes, inaugurated a new type of effort on the part of the Boy Scouts to render service to the Nation and to train boys in the lore of the forests. Since then the work has been extended yearly, and by 1929 trails of considerable length had been completed in Yellowstone, Glacier and Mount Rainier National Parks.

"Just to relieve my conscience, I'm writing you a punk letter about a lot of good things," wrote the Scout to a friend. "For the past five days all of us have been working on one trail and have succeeded in putting it through a six-mile stretch of timber. Believe me, building a trail here consists of more than blazing a tree on both sides. All fallen timber must be cleared away, stumps uprooted and standing trees taken out with their roots on so as to leave a clear, straight path about two feet wide. Even pine needles and small sticks must be removed from the trail. But even though we work hard and steadily, it is not disagreeable.

"The gang here are wonderful fellows, being thirty-two Eagle Scouts from all over the Northwest. The camp is lo-

cated on the shore of Yellowstone River, a quarter of a mile south of Canyon Camp Hotel."

That year real work was done at Yellowstone. The camp, as scheduled by the Boy Scouts of America, lasted over a period of two weeks. During that time more than six miles of trail, three feet wide and poled all the way, were completed, in addition to work on existing trails. On August 21 of that year the formal dedication of the first Eagle Scout trail was held. From the precedent which these first Eagle

Scout trail builders set, each succeeding year has seen the extension of trails in the National Parks of the United States. Under the plan followed by the Boy Scouts, work during the last few years has been concentrated on Glacier National Park, although work has been carried on in Mt. Rainier and Yellowstone parks.

This summer, in addition to the work in Glacier Park, another Eagle Scout trail camp will be conducted to extend the trail in Yellowstone, and undoubtedly some work will be done at Mt. Rainier. It is also of special interest to find that Scouts in many parts of the country have taken up the trail-building work and are extending the program to every part of the United States. Last summer trails were started in the Adirondack Mountains of



Trail-building Eagle Scouts in Glacier National Park. The ax crew at work

New York and in the forest lands of Wisconsin. Early in August of 1929, forty-two Eagle Scouts left their homes in the East, the West, the North and the South and started for Glacier National Park, in Montana. These boys, the highest ranking scouts in the country, most of them unknown to each other, met at the entrance to Glacier Park and were transported by government trucks to their camp at Red

Eagle Landing. They took up their task at the end of a mile of mountain trail which had been completed in 1928. Although they averaged but sixteen years of age, these Scouts completed in two weeks 4,700 feet of trail through a heavy forest, bringing the total distance for the three-year period in which the trail work had been carried on to about eight miles.

The work was done in a workmanlike fashion. There were axmen who went ahead and cleared a twelve-foot path of standing timber; there were swampers, or "log-rollers," who sawed and rolled all of the logs from the right of way. They were followed by boys who wielded brush-hooks, and after them came other Scouts, more experienced in the work, who acted as graders.



The Scout trail graders at work in Glacier Park—a job for the more experienced boys

These Scouts leveled off the trail so that it followed exactly the line of markers laid out by park officers. All blasting operations on Eagle Scout trails were done again by professional powder men. Two crews of boys, however, dug out projecting rocks and filled in craters created by the blasting.

During their leisure moments the Scouts participated in real Scouting activities. There was hiking, fishing, boating, swimming, and other types of activities. A campfire was held each evening at which many unique stunts were staged.

At the end of the camp each year in Glacier Park members of the party are guests of the Blackfoot Indians on their reservation. Each year one member of the party is inducted into the Tribe and the Scouts



There is more to good trail building than clearing out timber and brush and blasting rock, the Eagle Scouts have found. Here they are completing a trail bridge in Yellowstone Park

are given an opportunity to study real Indian lore. In 1928, Scout James Galbraith, of Seattle, Washington, was chosen for the unique honor of being made a Blackfoot, and in 1929 Scout Mack Miller, of Minneapolis, Minnesota, was designated. The boys selected to be inducted into the tribe are elected by the Scouts themselves. In summarizing the work of the Boy Scouts in the National Parks during the last four years, the reports of the National Park Service show that eight miles of trail have been built in Glacier National Park, three and a half miles of good trail and one excellent bridge have been constructed in Yellowstone Park. This work was done in 1925 and the trail extends from Camp Roosevelt, at Tower Falls Junction, to a point at Tower Point Creek, and then along the Falls to the main automobile road. The trail is said to be a perfect link in the Howard Eaton Trail through the park. In Mt. Rainier Park, one mile of new trail was completed and two and a half miles of old trail were reconstructed by thirteen Eagle Scouts in 1925.

This annual Eagle Scout trail work has become one of the most cherished goals of every Boy Scout. To spend two weeks in one of the great National Parks, to have a part in the building of a trail through tangled underbrush and deep woods, across mountain streams and up ravines that will disclose thousands of new wonders of nature is the pinnacle of Boy Scout achievement.

The interest taken in trail building work by Scouts is shown not only in the group that reports for work at the Eagle Scout trail camps in the National Parks, but in the accomplishment of Scouts in other parts of the country.

Boy Scouts of Schenectady, New York, constructed, in 1929, seven miles of forest trail at their Adirondack camp near Blue Mountain Lake. The trail was built under the supervision of the State Conservation Department. The portion

made by the Scouts stretched from Cedar River to Blue Mountain and comprised, in addition to several stretches of corduroy road, a bridge at Rock Pond. They put in four hours a day on the trail work and spent the remainder of their time in Scouting activities. A program of trail building through 70,000 acres of forest, which includes the building of roads over marshes in Northern Forest State Park near Woodman, Wisconsin, has been laid out by the Boy Scouts of that state under the supervision of the State Conservation Department. The work will be part of their woods training and may extend over a period of five years. Eagle Scouts from all sections of Wisconsin will be chosen to attend the two weeks trail camp each year. They will be expected to work about five hours a day on trail-building projects. The boys will receive no remuneration for their work, but their camping equipment and board will be supplied.

The first trail project upon which the Scouts will work will be the extension of a trail from Starrett Lake to a point on Trout Lake, five miles away. The trail will be the first of a bridal path system, which, during the next ten years the Conservation Commission hopes to extend through the Northern Forest Park area and to connect with and extend through the American Legion Memorial Park. At least fifty miles of trail will be constructed.

It is believed that all sorts of groups will take advantage of these trails. It is certain they will be popular with various boys and girls camps throughout the North, and the Boy Scout organizations will without a doubt make great use of them. Forest clubs as well as the growing

Junior Forest Rangers will use them throughout the summer and a portion of the winter to good advantage. Then the camping and hiking public is sure to make the most of them in pilgrimages away from the beaten path in search of rest and healing.



Scout Executive R. C. Mathews, of Everett, Washington, Chief of the Eagle Scout trail builders, and Eagle Scout James Galbraith, of Seattle, Washington, ready to be initiated into the Blackfoot Tribe. Chief No Coat, Indian Police Judge of Glacier Park, is ready to perform the ceremony.

Above, an Eagle Scout trail marker

Conference Advances New Ideals in Forestry



George D. Pratt, President,
The American Forestry Association

Annual Meeting of The American
Forestry Association Opens Door to
New Thought in Land Utilization,
Forest Protection and Restoration, and
the Forest Industries



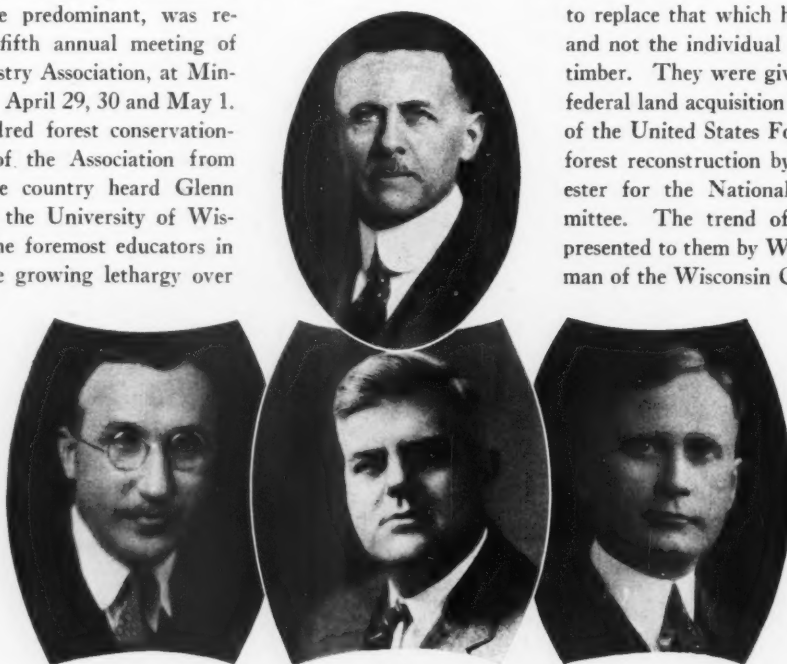
A NEW era in forestry in which the need for a comprehensive program of land utilization, with special attention to submarginal farmlands, a growing responsibility of government and state in forest protection and the reforestation of cutover lands, the need for workable forest taxation, and increased production of synthetic woods are predominant, was reflected at the fifty-fifth annual meeting of The American Forestry Association, at Minneapolis, Minnesota, April 29, 30 and May 1.

Nearly four hundred forest conservationists and members of the Association from every section of the country heard Glenn Frank, president of the University of Wisconsin and one of the foremost educators in the world, assail the growing lethargy over conservation and deplore the lack of a national conservation mind. They heard Nils A. Olsen, chief of the Federal Bureau of Agricultural Economics, and Dr. F. B. Bomberger, of the Federal Farm Board, speaking for Alexander Legge, stress the

urgent need for a comprehensive program of land utilization and advocate the conversion of thousands of acres of land now used for farming into forest acreage as a means of aiding the present agricultural problem and of promoting forestry. They heard Governor Theodore Christianson of Minnesota

declare that if timber ever shall be grown to replace that which has been cut, the state and not the individual citizen will raise that timber. They were given a new insight into federal land acquisition by R. Y. Stuart, chief of the United States Forest Service, and into forest reconstruction by Ward Shepard, forester for the National Conservation Committee. The trend of forest taxation was presented to them by William Mauthe, chairman of the Wisconsin Conservation Commission, and the forest problems of the Lake States were outlined by Raphael Zon, director of the Lake States Forest Experiment Station.

The recreation problem of the forests was defined by Dr. Frank A. Waugh, of the Massachusetts Agricultural Col-



Left to right—Ward Shepard, Governor Theodore Christianson
and Nils A. Olsen. Above—Mayor William F. Kunze.

lege, and one of the nation's outstanding authorities on outdoor recreation and beautification. Paul Hansen, chairman of the Streams Committee of the Cooke County, Illinois, Izaak Walton League, and a noted engineer, told what is being done to meet the menace of stream and lake pollution, while Paul G. Redington, chief of the United States Biological Survey, made a strong plea for wild life in the forest program of the future.

Benjamin H. Hibbard, of the University of Wisconsin, in picturing the price of forest destruction, declared that had a genuine forest policy been started thirty years ago the wood supply of the nation would now be more than adequate. If we start now in dead earnest, he said, we shall be back into the woods in another thirty years. Albert Stoll, Jr., of the *Detroit News*, told of the power of a forest-minded press, while the possibilities and handicaps of private forestry were dealt with by W. A. Holt, president of the Holt Lumber Company, of Wisconsin. Stafford King, chairman of the Conservation Committee of the American Legion, told of the proposed American Legion Memorial Forest in northern Minnesota, while Mrs. Sam A. Rask, president of the Minnesota Federation of Women's Clubs, dealt with conservation and good citizenship.

One cannot touch even lightly the conservation problem without a sense of having come into the presence of one of the nation's basic problems in the intelligent handling of which the future and fortune of the American people are involved, said Dr. Glenn Frank.

"Conservation is something more than planting a few trees and protecting a few fish," he said, speaking at the annual banquet. "It is something more than luring harassed men out of stuffy offices into the healing atmosphere of lake and woods. It is something more than turning our geographically fortunate states into profitable playgrounds for tourists."

Socially considered, said Dr. Frank, the conservation movement is symbolic of the fact that, as a people, we are in a kind of twilight zone between the exploitation of the Ameri-

can continent and the enrichment of an American culture.

"Conservation means a sustained effort to make good the mistakes of our pioneer forefathers," he said, "who were content to take all they could out of their immediate environment and then move on to fresh fields of exploitation. The pioneer left us not only the physical heritage of denuded and disorderly landscapes, but, what is still more serious, the psychological heritage of a lazy willingness to tolerate denuded and disorderly landscapes."

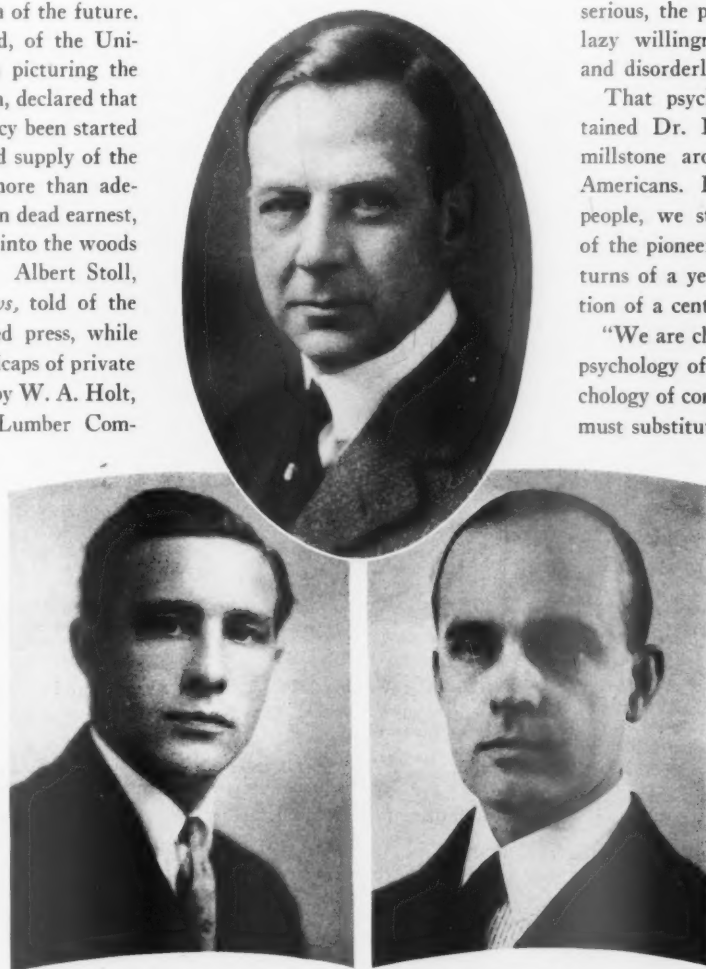
That psychological heritage, maintained Dr. Frank, still hangs like a millstone around the necks of most Americans. He pointed out that, as a people, we still think with the mind of the pioneer in terms of the cash returns of a year instead of the civilization of a century.

"We are challenged to substitute the psychology of conservation for the psychology of conquest," he declared. "We must substitute stable and scientific agriculture for an unintelligent raping of the soil. We must substitute rational forestry for reckless timber slashing. We must learn to dress the land we have deflowered. We must become high-minded statesmen of our resources. With respect to all of our natural resources we must exalt the common lot above the common loot."

We are not suffering from lack of an intelligently conceived conservation program, believes Dr. Frank. We are suffering from lack of a conservation

mind. The primary task of the conservationists is to transform the millions of hand-to-mouth, day-by-day Americans into a conservation-conscious people, to create a public mind that is forest-wise, he thinks.

"The kind of mind upon which the conservation movement must depend for its continuing vitality," he stated, "must be a mind that takes long views—a mind that can think in terms of the next generation as well as in terms of the next election. It must be a mind that realizes the complexity of the conservation problems as well as a mind that works for a cooperative leadership of the nation



The Banquet Speakers

Above—Dr. Lotus D. Coffman, toastmaster. Left—Stafford King.

Right—Dr. Glenn Frank

rather than competing leaderships in the nation.

Dr. Frank advocated the development of public forests—national, state and municipal. "If we are really wise," he said, "we should in time be investing profitably in forest protection and cultivation the huge sums we are now spending on transcontinental hauling charges."

He further advocated a working cooperation between the government and the private owners of timberlands that will make reforestation economically feasible; a constant and comprehensive research and information service for state or federal laboratories to the private owner of forest lands; and the exercise of some degree of public oversight of forest lands, even when privately owned, to insure a continuing productivity.

With George D. Pratt, president of The American Forestry Association, presiding, the meeting was opened by an address of welcome by Mayor William F. Kunze, of Minneapolis. In the opening discussion Governor Theodore Christianson assailed the individual citizen for his inaction,

declaring that if timber ever shall be grown to replace that which has been cut, the state and not the individual citizen will raise that timber.

"Men and women as individuals," said the Governor, "are too concerned with individual advantages to be influenced greatly by considerations of general welfare."

"There is little justification for scolding our pioneers for their shortsightedness unless we show ourselves possessed of more vision—unless we take steps to prevent so far as we can a repetition of the old blunders. We are feeling the increased economic pressure which is the penalty the sons in the third and fourth generation are paying for the sins of their fathers. We should be recreant if we did not avoid the errors which, if continued, will cause even more serious visitations upon our children."

"But if those visitations shall be averted, it will be because of a new attitude on the part of the governmental bodies and not to any great degree because of a change of practice on the part of individuals. For the individual is motivated by his immediate rather than his remote incentives. He holds the penny of today too close to his eyes to see the dollars which might be made to represent tomorrow's prosperity."

The Governor declared that it was once his opinion that

cutover lands might be reforested by the individual owners of large tracts if they were freed from the burden of heavy *ad valorem* taxes and given the privilege of paying a yield tax instead. "My faith is not wholly gone," he said, "but it has been weakened. In 1927 the Minnesota legislature passed a yield-tax law. Not a single application to come

under its provisions was made. In 1929 the legislature liberalized the provisions of the law. One large holder made application to be placed on a yield-tax basis, but local taxpayers, feeling that the tax of five cents an acre, imposed annually on the lands reserved for reforestation would fail to provide enough current revenue to support schools and local governments, opposed the application."

Governor Christianson stated that it is increasingly becoming his conviction that if we are ever going to have reforestation in the country, the reforestation will have to be done by the government and the state. The federal government will have to enlarge its holdings, he said, while the state will need to make provision to reforest tax-delin-

quent lands that come into its possession. Cities and villages located where land is adapted to the growing of timber will need to be encouraged to acquire and develop municipal forests.

A comprehensive program of land utilization, including a careful survey of lands in areas of low income and the development of an economic program for such areas, was urged by Nils A. Olsen. Mr. Olsen's message was presented by L. C. Gray.

"American agriculture," Mr. Olsen declared, "is suffering not only from deflation of land values, from high taxes, and from low price-levels for its products, but also from general overproduction and widespread geographic shifts. In many of the woodland areas of the United States the economic dislocation caused by this shift has been intensified by the progressive exhaustion of the timber resources, which has reacted in turn on the farmers through removing sources of income."

"These conditions call, in my judgment, for the formulation of a definite state and federal policy of land utilization with respect to lands which have become, or have always been, submarginal for farming. I believe, however, that we should not confuse the need for a policy of dealing with sub-



Left to right—Benjamin H. Hibbard, Dr. F. B. Bomberger and Raphael Zon. Above—Mrs. Sam A. Rask

marginal agricultural lands with a policy of public acquisition of forest lands. These small submarginal farm properties generally have a fictitious market value which is above that of land purchasable in large blocks for forest purposes. A policy of purchasing submarginal lands, therefore, must rest largely on other grounds than that of acquiring forest land, even though it may be found desirable to devote such lands to forest use after they are acquired."

Mr. Olsen stated that it is widely recognized that there are large areas which are suitable mainly for growing timber, consisting mostly of cutover tracts not occupied by farmers, but partly also of submarginal farms which should be abandoned. Most of the evidence, he maintains, seems to point to the conclusion that in a large proportion of this territory, under present conditions, private reforestation does not promise to be profitable.

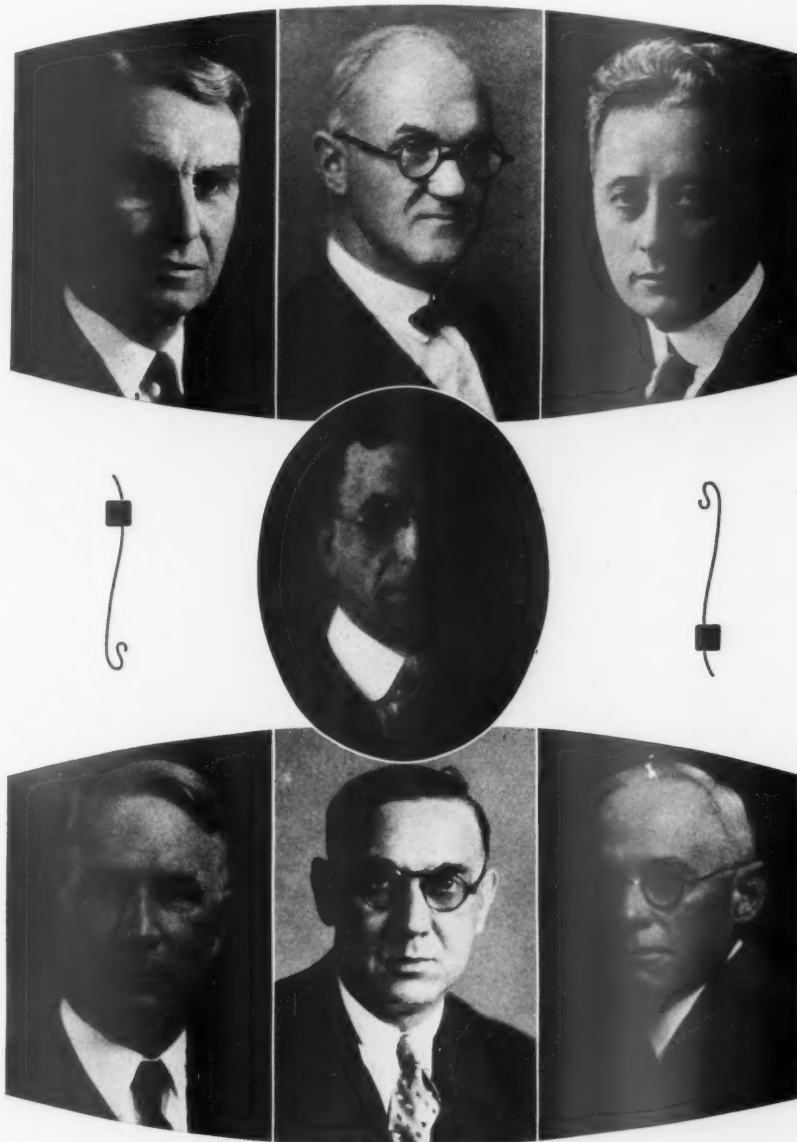
"In some cases," he said, "this may be attributed to conditions which could be altered by public action, such as a reduction and change in forms of tax burdens, and provision for greater fire protection."

It should be a part of a definite policy to ascertain for submarginal lands with a fair degree of certainty whether private reforestation is possible, and if it is not, to indicate the desirability and feasibility of public action, he said.

Mrs. Sam A. Rask, in picturing the place of good citizenship in conservation, made a sweeping appeal for education. "All of us are but tenants for a while on this earth and it becomes our duty as good citizens to show our gratitude by not abusing it and by not making it the worse for our having been here. We may own land and dispose of it; but, after all, in

the final analysis, no one can have anything more than the use of the land. A generation lives and inhabits the earth, and then passes on. Another takes its place.

"But before we stop our insane riot of destruction and wasteful extravagance—before we become good citizens—education is needed by the mass of people, especially in our schools. As a matter of fact, conservation provides the golden opportunity to make our school work more practical and worthwhile. It furnishes material which will help to arouse and keep up the interest of our children. Such a program provides something definite towards insuring a good country and good citizens to



Above, left to right—W. A. Holt, R. Y. Stuart and William Mauthe. Center—S. T. Dana. Below, left to right—Paul Hansen, Albert Stoll, Jr., and Dr. Frank A. Waugh

live in it." With Dr. W. C. Coffey, of the University of Minnesota, presiding, the afternoon session of April 29 was opened by Raphael Zon, who discussed the Lake States problems. The biggest problem of the Lake States region—Minnesota, Wisconsin and Michigan—lies in the economic rehabilitation of the millions of acres of cutover and burned

land, Mr. Zon declared. "Serious as the problem of cutover and tax-delinquent land is," he said, "new economic forces are at work to absorb these lands into agriculture. First, it is generally admitted that it is futile to hope to absorb these lands into agriculture. Second, jack pine and popple, pioneer trees which come after fire, are finding increasingly widening usefulness for pulp and paper. Third, the automobile opened up this vast wilderness and revealed to millions of tourists and nature lovers the beauties of lakes and streams and its northern landscape.

"As a result of these new economic forces there is a great awakening toward forest-fire protection, forest planting, acquisition of forest land, for county, state and National Forests, and modification of the present system of taxation."

In eighty years the lumber industry has swept away 85,000,000 acres of forest in the Lake States, he said, adding that there are 6,000,000 acres of cutover and burned lands in Minnesota, 4,000,000 acres in Wisconsin, and 10,000,000 acres in Michigan. The price of forest destruction, especially in the Lake States, was declared by Dr. Benjamin H. Hibbard to be the loss of the basis of private and public housekeeping over millions of square miles. "We had many communities supported on the forest activities," he said. "Now in Wisconsin but a paltry million acres of merchantable timber remains out of ten or thirty millions—and the last million is being cut rapidly. Our sawmills are leaving us—in fact, have mostly left. Our paper mills are going farther and farther away for pulpwood.

"Our tax rolls are cumbered with uncollectible items of assessment against unproductive acres. And the burdens will grow heavier and heavier on those who remain. Our freight bills are mounting at the rate of millions of dollars a year.

"Our much-boasted tourist trade of over a hundred million dollars a year is insecure unless we succeed in bringing back more forest cover for millions of acres of dreary waste.

From the production of a quarter to a third of the lumber supply of thirty years ago, we now produce a twentieth; and in this decline have left a third of our territory with a million or two of people, but partially employed; with our wood-using industries on a precarious foundation, and with the

land which might better than not be growing another crop as good as the first; with these facts before us, we may well be impressed with the reality of cost of forest destruction."

The conversion of thousands of acres of land now used for farming into forest acreage as a means of aiding the present agricultural problem and of promoting reforestation, was urged by Dr. F. B. Bomberger, who spoke in place of Alexander Legge.

Calling attention to that vast "no man's land" stretching out between economical agriculture and legitimate forestry, Dr. Bomberger said: "The existence of this vast expanse of land which lies on the borderland and might be devoted to

either of these industries presents problems worthy of the consideration of the best thought of this nation.

"The United States is one of the few nations of the world, if not the only one, where a vast population has grown up accompanied by a reckless devastation of forest resources with no settled national policy relating to forestation or the restoration of forest growths. Two things have resulted. Our forest

resources have dwindled until we are able to provide for only a small portion of our timber needs. At the same time more land has been devoted to farming than is needed to produce agricultural commodities adequate to our national requirements."

Dr. Bomberger declared that the Federal Farm Board was generally favorable to reforestation on land unsuited for agriculture and the general restoration and expansion of the woodlot. If every American farmer were to devote five per cent of his present acreage to this form of reforestation, he said, he would have gone a long way toward meeting the problem of excess production and at the same time have added materially to the future value of his farm.

"Our forest resources are sadly depleted," he pointed out, "and millions of acres of denuded land call loudly for reforestation. The farm woodlot is dwindling until its virtual disappearance can be anticipated. Meanwhile, there are being tilled millions of acres of land which do not yield profits themselves but which swell the total of production that ulti-



The field luncheon at the Cloquet Forest Experiment Station—beneath virgin Norway pines

mately spells surplus of agricultural commodities with lowered returns—and occasionally disaster—to the real agricultural lands of the country. The marginal lands under cultivation not only impoverish those who till them but place an inescapable burden upon the entire agricultural industry.

"What then is the solution? The interest of The American Forestry Association is bound to be involved in finding the answer to that question. It cannot be doubted, I believe, that the American nation has a vital interest in the proper determination of both problems, the withdrawal of marginal lands from cultivation and the utilization of vast areas of them through reforestation.

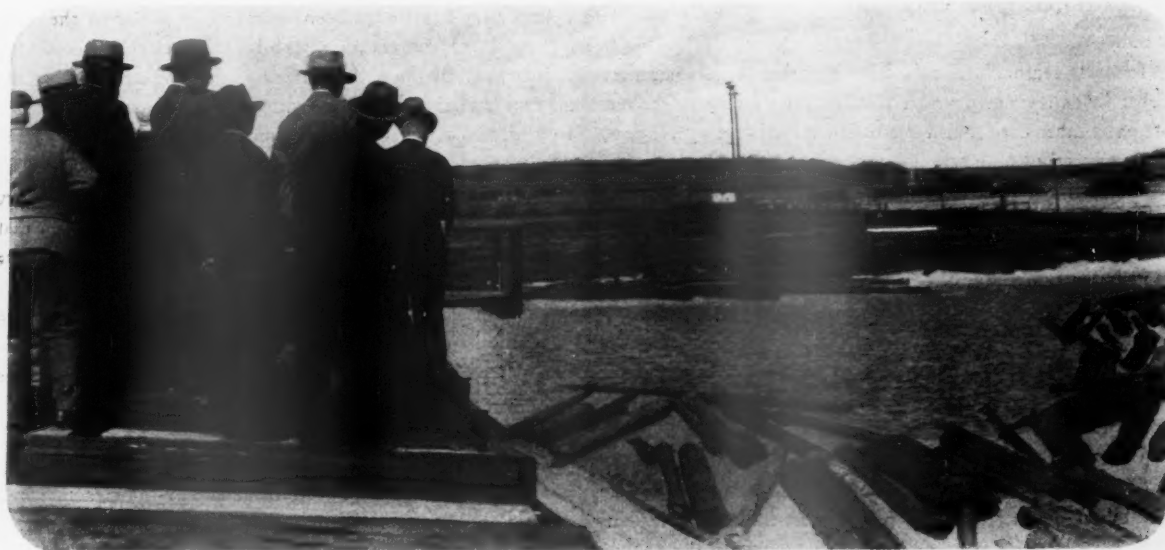
"What is needed is cooperation and coordination of effort in a long-time program of education. The Federal Farm Board has a responsibility under the Agricultural Marketing Act in 'aiding in preventing and controlling surpluses in agricultural commodities.' Whether through enlargement of the farm woodlot or through the inclusion of marginal lands in the state or national forests, the Board will gladly cooperate

the problem of destructive logging on some 350,000,000 acres of private forests, more than three-fourths of all our forests," he said, "we shall miss the main issue, the main opportunity and the main duty of American forestry."

Mr. Shepard maintained that both the power and the method must be found for dealing effectively with the problem of forest destruction, expressing a belief that the nation has been too prone to accept forest destruction as a part of the scheme of things.

"I think we shall get further if we regard forest destruction as only in part due to economic forces and in very considerable part due to bad custom and habits," he said. "If we break forest destruction up into its constituent parts, we find that it comes from specific practices as clear-cutting, destruction of young trees during logging, failure to leave seed trees, use of improper logging machinery, fire during and after logging, and failure to make safe disposition of logging slash.

"I have spoken of the need for a new strategy in the forest movement. That strategy must seek to develop direct, com-



Part of the field party at Cloquet, the greatest wood-conversion city in the world, inspecting logs before they are turned into lumber and other wood products

with The American Forestry Association in arousing our people to a realization of the need for a national land policy which shall comprehend the curtailment of cultivated land and the restoration of our native forests."

Declaring that the time has come when we are forced to apply to the nation's forest problem a more far reaching strategy, a more vigorous and disciplined thought, a more creative and daring statesmanship than have yet been achieved, Ward Shepard advocated three steps as essential to forest protection and development. They are: The immediate nationwide extension and perfection of forest-fire control systems; a very great extension of public forest ownership, federal, state, county, and municipal; and direct measures to remedy the destructive exploitation of private forests.

"Unless we now manfully, skilfully and directly attack

prehensive, planwise ways and means of improving the practices responsible for forest destruction. It would substitute the conception of direct creative activity for that of passive acceptance of destructive practices."

This strategy would proceed, said Mr. Shepard, through the development to the utmost of methods and machinery of conference, discussion and group action, as well as necessary public regulatory measures to make this cooperation effective. Government regulation, he said, should be invoked only when it is needed to protect a vital public interest.

"In working out this strategy," he said, "definite responsibilities must be faced. The government must assume its responsibility of creating or strengthening the necessary agencies and bring to bear the full force of government leadership and constructive guidance on this basic national problem. The

forestry profession and the conservation groups must assume the responsibility of facing the problem squarely and of mobilizing the forces of the government, of industry, and of public opinion in a new and far-flung strategy that will direct the creative genius of our race into the reconstruction of our forests."

The morning session of April 30, devoted to the solution of the Lake States problems, was presided over by Dr. H. L. Russell, of the University of Wisconsin. R. Y. Stuart presented the opening address, dealing with federal acquisition of forest land.

"The Federal Government," said Mr. Stuart, "is prepared to acquire up to 2,500,000 acres of forest lands in the Lake States. Such acquisitions would increase present National Forest areas by more than 1,000,000 acres. The object of the government in these acquisitions is promotion of forest growth, improvement of waterflow conditions, and additional facilities for outdoor recreation and wild life conservation."

William Mauthe, in presenting the forest taxation problem, declared that the requirements of a workable forest crop tax law are that it should be understood and wisely administered.

"It seems reasonable," said Mr. Mauthe, "to assume that timber lands registered under fair tax laws will produce not just one timber crop, but a succession of satisfactory crops at reasonably frequent intervals."

"What if the state never does get back the tax money it contributes to lands registered under an adequate forest tax law? If we can bring back the forest and maintain its wood-using industries, the indirect benefits to the state will more than repay for this small contribution."

One of the most important steps to be taken in forest taxation, said Mr. Mauthe, should be to provide for general registration of forest lands. All land of a certain description should come automatically under the operation of a forest crop tax law, he pointed out.

"This sounds like a radical, revolutionary proposal," he said, but if the law works as well as first indications lead us to believe, if the law is administered as it should be, then there is no reason why it should not come to be universally effective by general acceptance. It can be made automatic, bringing in the last stragglers after it has thoroughly proven itself.

"Perhaps there might be an intermediate step, a period during which the state authorities would be charged with the duty of examining lands, and where conditions are ideal, given the right to initiate proceedings, requiring the owner, if he objects, to show cause why the land should not be classified as forest land."

Dealing with the possibilities and handicaps of private forestry, W. A. Holt declared there is but one way in which the life of the lumber industry can be prolonged—by selective logging. If all lumbermen had started twenty-five years ago to log selectively, cutting the mature timber and leaving the rest to grow, he said, many mills might now have a timber supply for perpetual operation.

The greatest handicaps in private forestry, declared Mr.

Holt, are unreasonable taxation and the large expenditure of money and effort in fire protection and suppression.

What can be done about it? "With regard to cutover lands," said Mr. Holt, "they must be assessed and taxed at a rate which will permit of their being used for growing forests, not on the basis of their being used for growing annual crops."

The manufacture of boards and other products from wood fiber is in its infancy, said Mr. Holt, and expressed a belief that the utilization of our idle lands may be possible along the lines of wood conversion as small timber can be used and timber crops can be harvested in a comparatively short time.

Dean S. T. Dana, of the School of Forestry and Conservation, University of Michigan, presided at the afternoon session. Paul Hansen told of the work being carried on to meet the menace of stream and lake pollution. Mr. Hansen explained equipment and methods used in many sections of the country, illustrating his lecture with lantern slides and motion pictures.

Dr. Frank A. Waugh spoke on forest recreation, illustrating his talk with lantern slides.

"Forestry has always been looked upon as one of the leading forms of conservation," said Dr. Waugh. "Now the conservation of the native landscape must be added, since the natural landscape is a basic element in all forms of recreation. In fact, landscape conservation on a large scale and in minor detail has already become a part of regular forest activities."

Dr. Waugh raised the question whether spectacular scenery is best for purposes of recreation, and left the impression that ordinary forests, hills, lakes, and streams are generally more satisfactory in the long run.

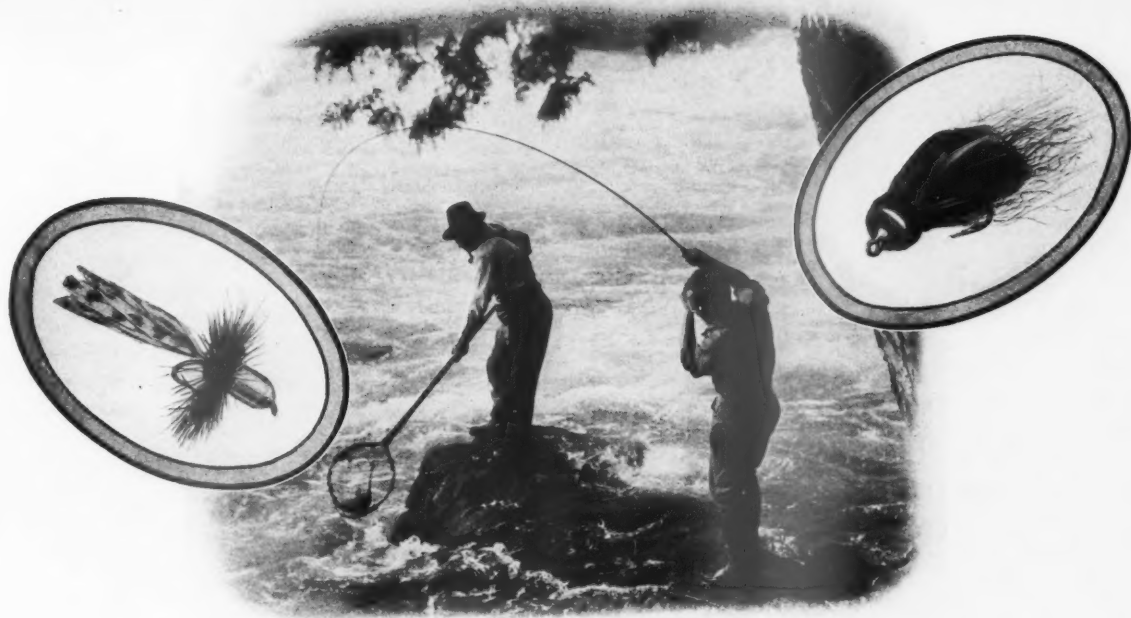
Wild life of the forest should be regarded as a crop to yield profit in one way or another, said Paul G. Redington in a paper read by O. L. Austin, Jr. In many cases this profit may be measured by esthetic rather than money values, he pointed out.

"We should not waste such resources," he said. "Large game animals have high food value and if the circumstances permit or demand the removal of a part of the population, this should be done at a time and in a way to avoid waste."

In spite of the many efforts that have been made to keep up the numbers of wild life in the forests by limitation of shooting seasons and other measures, most species have steadily lost ground, he said. Interest in wild life as living entities has grown, however, he said, with increasing rapidity.

"While our increased facilities for getting about have in many cases resulted in increased destruction, these same agencies also helped millions of people to reach the wild spaces and view wild life in parks and other reservations where protection has taught the wild creatures that here, at least, they have little to fear from man—and with this interest has come power to guide public sentiment in favor of added protection."

Dealing with the power of a conservation-minded press, Albert Stoll, Jr., explained in detail the reforestation project of the *Detroit News*. The purpose of this project, said Mr. Stoll, is to plant pine trees on the hundreds of thousands of acres of land laid bare by the woodsman's ax during the half century of intensive lumbering in (Continuing on page 360)



The Tackle's the Thing

By FRITZ SKAGWAY

IT WAS, I believe, Irvin S. Cobb, famous author-sportsman, who said that he, for one, was proud to call himself a fisherman and with the fishermen stand. Our's is a venerable and a noble and healthful sport. To practice it is good for our minds and our bodies. To lie about our fishing afterwards makes the imagination more flexible. But to get the maximum enjoyment out of this favored pursuit of ours we must have the right sort of tackle. I have lost some mighty fine fish fighting them with mediocre tackle.

On my first trip into British Columbia I had a flyrod not a standard make. It was all right for the little brook trout of the Au Sable River in my northern Michigan home, but when the big rainbow trout of the Coast Range rivers struck the fly I knew I had made a mistake. After whipping three big rainbows my rod drooped like a puppy's tail in the rain. I lost no time getting a good one, for the lakes and streams between Jasper National Park and Prince Rupert are alive with cold-water fighting trout that smash tackle joyfully and without compunction. Fishing above Skagway, Alaska, in the Dewey Lakes, I used a flyrod of

well-known make with startling success, and at the end of a heavy day's fishing found the same resiliency that the rod boasted of in the morning. Again on the upper Yukon, I stood for an hour in the icy water of that surging river, snagging and fighting the Arctic grayling until my wrist ached and my numbed feet would carry me no longer. Sixty pounds of fighting grayling was the catch my companion and I brought in from Miles Canyon to the mining frontier town of Whitehorse that evening. Next day my right arm ached so I could scarcely lift it from the bed, but my flyrod was as straight as a die, as resilient as the day it came from the hands of its maker. Two days later we sailed down the Yukon

River to Dawson City and the Klondike country, fishing grayling at every opportunity. The boat would stop for wood morning and night, and my son and I supplied the crew and sixty passengers of the steamer with fish. After three days of this strenuous racket the rod showed no signs of losing its "life." Every day for six weeks we fished the Klondike and its tributaries. Yet when I slipped the rod in its aluminum case at Ketchikan before taking the boat for



"Boy, what a whopper!"

Prince Rupert and home, it was as good a piece of bamboo as when I received it across the counter in Detroit. I made up my mind to visit the factory that produced such goods and to find out for myself what gave these rods their long life, lightness and beauty.

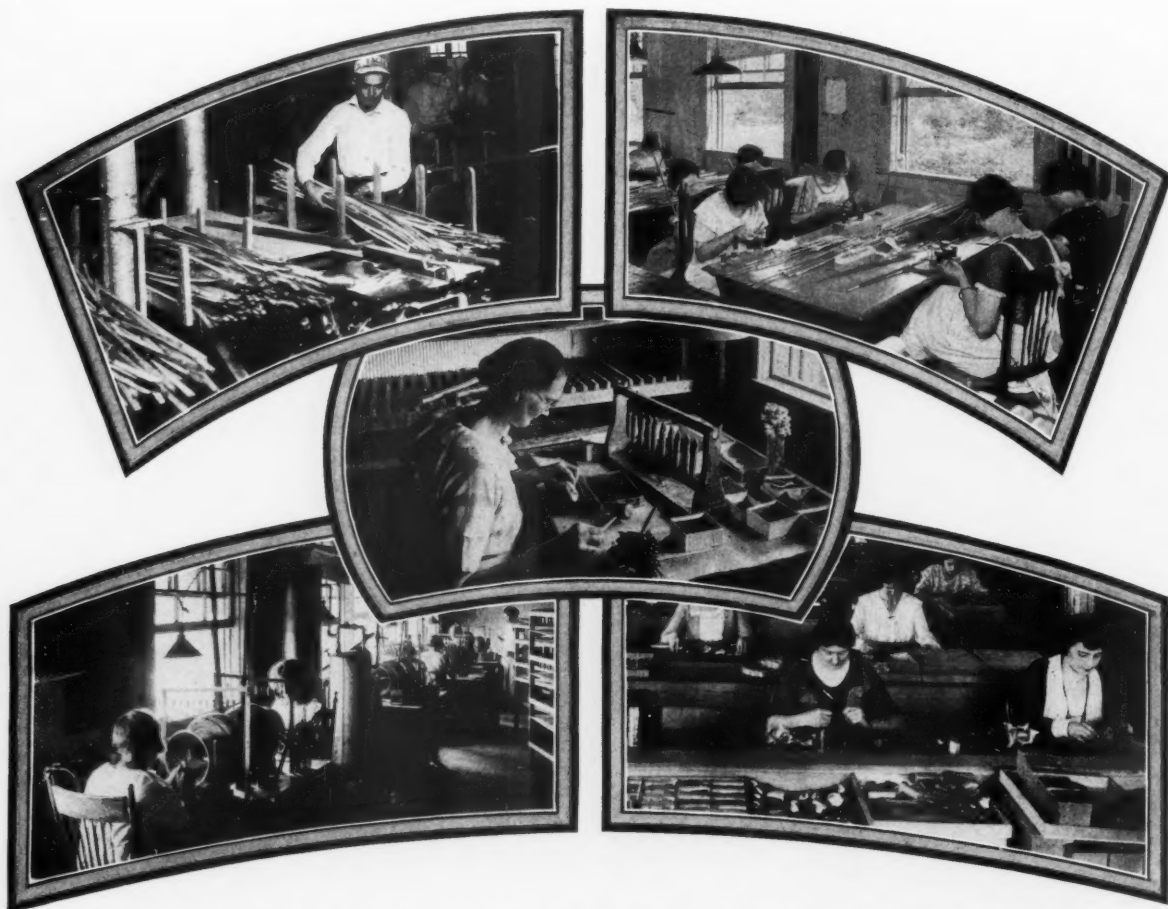
I was welcomed at the factory and the various processes of tackle manufacture were explained to me. The finishing room was the most delightful place imaginable to the rod enthusiast. Here were rods of every length, weight and various degrees of "whippiness"—flyrods such as I used in Alaska, some gold mounted and beyond my purse, others that I could hope for eventually. There were all types, from the light rods used in trout fishing, to the big, powerful, double-built salt-water rods used for tarpon and sailfish. There were light trout, standard trout and bass casting rods.

I was surprised to find that the rods were made only from the butt-cut section—the first six feet nearest the ground—

of bamboo cane imported from China. The cane is tempered by a secret process which adds to the strength and resilience of the bamboo and which was the real secret of my rod's preservation during the Alaska campaign.

In this factory the split bamboo rod is made up of six triangular pieces glued together to form a solid shaft. You will find this construction from the butt to the tip—even in the tip of the very small-diameter flyrods that look as though they would not hold a six-inch brook trout. The material

is split into rough strips and planed to a triangular shape with the outer circumference of the cane always on the outside. These strips are tapered from one end to the other, and each section of the rod starts in with a different diameter. The sticks are then glued together and temporarily wrapped with a spiral wind to hold them until the glue has set. These are then put into the loft to season, which requires from six months to a year, depending on the kind of rod to be made.



Upper left—A corner of the split-bamboo rod-manufacturing room of the South Bend Bait Company. *Right*—Great care is exercised by the workers at the Heddon plant at Dowagiac, Michigan; here they are winding by hand the silk windings on bamboo rods. *Center*—She gives them the "glassy stare"—the "bait oculist" engaged in the delicate task of eyeing the baits. *Lower left*—Applying the brilliant colors to Heddon baits by air brush. *Right*—Where cork body-bugs, buck-tails and lifelike feathered lures to bait the "poor fish" are finally assembled at the plant of the South Bend Bait Company

The knots in the bamboo are matched so no two come together and weaken the product. Strips of varying degrees of stiffness and elasticity are separated and used in a rod of the same degree of stiffness. Otherwise one side of the rod would be whippy and the other stiff. Ferrules or joints are fitted closely and glued to the rod sections, fitting with velvet smoothness. No pins are driven through the ferrules.

When they eventually loosen in distant fishing grounds you merely heat and contract the bamboo and fit a new ferrule on, with a bit of cement to hold it. The bamboo butt section goes to the butt of the rod and the cork handle and the metal reel seat is built up over this so there is no weak spot or "jumping-off place" between the cork handle and the rest of the rod. The work is done entirely by

hand. The minnow production section was an interesting place also. Each year the plant receives three carloads of white cedar. This is used in making floating and diving types of wooden bait, while the heavier or sinking minnows are made from red gum shipped direct from the gumwood swamps of Mississippi and Louisiana. Small blocks, two inches square by five inches long, are turned in an automatic lathe to the first rough shape of the minnow. They are then sanded and leaded and sent to the enameling department, where they receive from eight to twelve coats of paint, depending upon the finish desired. Three coats of primer are put on over the bare wood before they receive four dips of specially prepared white enamel. After drying they are bored for hooks, screws and glass eyes. Here each of the colors is applied with an air brush, every color being a separate operation. The operators are protected from the fumes of the paints and solvents by blowers, which draw off these fumes and carry

them outdoors. The bait now receives several coats of superior finish, which gives a wonderful luster and prevents the checking, cracking or peeling of the minnow. In placing the eyes in the fish care must be taken to see that the pupils match, otherwise the minnows will be "cockeyed."

That, it is believed, would frighten the most courageous black bass. The operator uses a small, wooden mallet, and the glass eye has a wire point at the back which is driven into the spectacle drilled into the wood. This particular plant maintains a

daily average of more than 2,000 wooden minnows, and in addition makes from 500 to 600 feather lures. The making of the feather lures is entirely hand work, girls doing this exclusively.

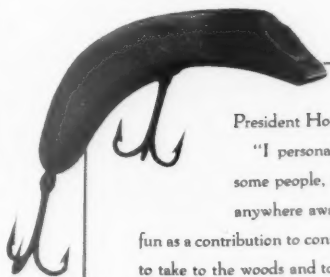
In the basement I saw a long tank fifty feet long and ten feet wide with four feet of water in it. Here is where the lures are tested to make sure their action

is perfect. Four or five big black bass—for atmosphere—swim about in the tank, and as many times as these big fellows have been hooked they still cannot resist the lures. Every now and then when the baits are being tested they make a charge at them and get hooked and have to be released. They are well fed so it is not from hunger that they strike. It is just gameness. You fishermen know what I mean by that. You have caught black bass which struck just to be fighting, bulging with food.

One of the most important pieces of fishing equipment is the reel. The first mention of the reel is in *Barkers Delight, or Art of Angling*, published in 1651. The author says, "within two feet of the bottom of the rod there was a hole made for to put in a wind, to turn with a barrel, to

gather up his line and loose it at his pleasure." Walton did not use a reel, but he had heard of it.

In the tackle shops of today you can buy fishing reels which have mechanical parts as perfect as can be found in the works



President Hoover says—

"I personally, perhaps, lend more importance to fishing than some people, although I sympathize with all those who want to get anywhere away from the workshop and desk. I am for fishing for fun as a contribution to constructive joy, because it gives an excuse and an impulse to take to the woods and to the water. Moreover, fishing has democratic values, because the same privilege of joy is open to the country boy as to the city lad."



In camp at Lake Khtada—It's a real problem when the rainbow is too big for the skillet!

of a fine watch. The reel that offers the amateur as well as the expert the opportunity of experiencing the thrills of casting is one having level-winding and anti-back-lash features. Such a reel is ideal for night fishing or during the cold days of spring and fall. Best of all, it is adjudged the only "easy" operating reel for a woman. The fact that no attention need be given the spool enables one to cast with greater precision, accuracy and ease, thereby getting the maximum enjoyment out of playing the fish. Very little steel is used in the manufacturing of these reels. The only place is the pinion of the reel and pivot of the end of the spool. The rest of the reel is of nickel-silver, brass or phosphor bronze. The level-

winding parts of the more expensive reels are chromium plated. This adds to the life of the reel, as the chromium plating will stand up under severe usage in all kinds of climatic conditions.

Almost without exception, the great characters of history lived close to nature and were great lovers of the out-of-doors. Criminals shun the solitude of nature. Fishing brings a man closer to nature than any other means of recreation. Fishing creates a love of country, and no person could possess a greater gift than that. It is the foundation of true Americanism. And only with the best of fishing tackle can one enjoy that greatest of all sports.

Hyde to Authorize Mt. Hood Cableway

The construction of a cableway to the summit of Mt. Hood, in Oregon, for several years the subject of controversy, will be authorized by Secretary Hyde, it has been announced. The Secretary's decision came after a committee appointed by former Secretary Jardine to study the Mt. Hood region had made its report. The committee consisted of Dr. John C. Merriam, president of the Carnegie Institution of Washington; Frederick Law Olmsted, whose land planning and landscape work commands national recognition, and Dr. Frank A. Waugh, of the Massachusetts Agricultural College, collaborator and advisor to the Forest Service on questions relating to recreational uses.

With the object of their study "to identify and interpret the features of qualities of major public importance, to develop the fundamental principles which should govern the Department of Agriculture in their management, and to determine whether certain pending or proposed projects are compatible or incompatible with the highest and best permanent realization of the potential public values of the area," the committee reported that the Mt. Hood region including the central peak, the snowfields, and the region above timberline, together with the forest area from which it arises, constitutes one of the most interesting mountain regions of the United States. Two members of the committee concluded that the greater direct values of the area and greater fame for it could be secured without a tram road and cableway to the summit, rather than with it. For that reason they do not approve the construction of the cableway.

Despite this, however, Secretary Hyde will decide in favor of the proposal to construct a tramroad and cableway to the summit of the famous mountain. An application for such privilege is now pending. This application was rejected in 1927 by W. B. Greeley, then Chief of the Forest Service, and when an appeal was made to the Secretary of Agriculture, the Mt. Hood Committee was created.

Commenting on the report of the committee, Secretary Hyde said:

"The gratitude of the people of the United States is due the members of this committee, who have given generously of their time and talents toward the solution of a problem which is becoming increasingly important. With our larger leisure and growing cultural standards, the place and part of nature as a source of inspiration and of mental and physical stimulus is significant. It would be a serious mistake to commercialize and debase any great natural heritage, such as Mt. Hood, without regard to the human service which may be derived from it in future ages. The committee has had a true appreciation of the future needs of the people.

"Nevertheless, I find myself in a serious dilemma. There is, after all, a doubt as to the extent to which the larger values of the area would be marred through the construction of the cableway. No fixed and irremediable alteration of natural conditions is necessary. If a cableway proves detrimental it can be removed. Few, if any, visible traces of it would remain after the lapse of

a short time. Rightly or wrongly, the great majority of the people most directly concerned, the citizens of Oregon, are sincerely and strongly in favor of the project. To deny them would be accepted as a wholly arbitrary and unwarranted exercise of federal authority. I feel that the solution of such problems lies undisputably in close and harmonious cooperation between the states and the federal Government.

"A definite proposal is now before me for decision. Wholly at private expense and without any outlay of public funds, it will afford the people, not alone of Oregon but of the nation, a new facility or service, a new means of pleasure, inspiration and education not otherwise open to any but the few. To reject it without offering in its stead something of reasonably equal or greater advantage is difficult. Unfortunately the Department is not prepared to offer any acceptable alternative which can be immediately made available. A system of roads, trails, campgrounds, shelters and other facilities necessary for the full development of the area, will cost in excess of a quarter million dollars. The money is not immediately available. The Department will push this work ahead as fast as other demands will allow, but some years must elapse before the required facilities can be fully provided. Then, too, a great many people, the vast majority who would patronize the cableway, could not enjoy the area otherwise. Such people, the very young, the old, the physically incapacitated, can not wholly be denied consideration.

"To deny the cableway, at this time, means to refuse a method of use and enjoyment which can be made available quickly, for the sake of values which may be equally as great or greater, but which can not be made available for several years.

"For these several reasons, I am willing to authorize the construction of the cableway. The Department will insist upon satisfactory guarantees that such construction will not be governed by purely financial or commercial considerations, and that the esthetic and artistic requirements of the site will be protected and preserved. In other words, I must be convinced that the project will not be a profit-making eyesore, designed merely to handle the largest number of people in the most expeditious and mechanically effective way. Regard must be had for the individual patron's realization of beauty and inspiration. All structures must be so arranged and conducted as to permit each visitor to secure from the area the full measure of its beauty and stimulus, and so designed architecturally as to hold to a minimum any adverse effect it may have upon the use and enjoyment of the area by the larger numbers who prefer to distribute themselves throughout the timberline zone. There must also be ample surety that if the project becomes objectionable so as to require its discontinuance, there will be a complete and satisfactory restoration of the site to its former natural condition. If these requirements are met I shall be willing to authorize the privilege."



Little Stories by the Men of the Southern Forestry Educational Project of The American Forestry Association Who Are Carrying the Message of Forest Protection to the People of the South

AFTER plowing through the mountainous region of North Georgia, over roads muddy and slippery from the early spring rains, I drew up before a small, three-room schoolhouse. As no one was there to receive me I telephoned the principal of the school and was informed that the schoolhouse, due to the expected attendance, would not be suitable for the program and that a large gathering was awaiting me at the church. With everything in readiness and the large crowd impatient for the motion pictures, I was approached by a man who appeared somewhat excited and perturbed.

"Good evening. I see you are going to show pictures here," he said.

"Yes, sir," I replied politely.

"I am the preacher here," he continued. "They showed pictures here year before last and the schoolhouse was good enough for them. They showed again last year and the schoolhouse was good enough for them. But you come here to show this year and it looks like the schoolhouse is not good enough and you have to take the church."

"Now this preacher, like the majority of preachers in this region, had been reared in the mountains and had led a quiet and honest life on his small farm, only venturing out each Sunday to preach to his small flock.

"He believed in living the right life, doing the right

things, but was not well posted as to conditions and progress beyond his range of hills.

"You see, sir," I explained, "that with the crowd we have, the schoolhouse is entirely too small."

"But the pictures are just a mockery and are not fit for the church," the preacher insisted.

"I don't know about that," I replied, slightly agitated. "Who has cut all the trees from your mountains?"

"The lumber companies and settlers," he answered.

"And who gave all these beautiful trees to begin with?"

"Well, I reckon the Lord created them," was his reply.

"Without loss of time I concluded: 'And yet when we go into the house of the Lord beseeching the people with pictures to spare some of the things that the Lord has made, you

call it mockery and say that it is not fit for your church. Are you right?"

"All through the lecture and motion pictures he sat rigid and attentive.

"When the show was over he walked straight up to me.

"Young man," he said, "I want to tell you that your pictures were fine and to say that I am going to do everything in my power to help save the things that God has created."—H. D. STORY, JR., Lecturer and Motion Picture Operator, Georgia.



School children in rural Georgia being entertained and instructed by the motion pictures of the Crusaders



Photo by B. L. Brown

THE fishing, camping, hiking, picnicking, touring days are here. Millions have been awaiting them with expectation. A few have had a desire to postpone their coming—mostly male “slaves” who carry picnic baskets and fight mosquitoes.

Whether you like the open-air meal or not, you are due for at least one or two this season. Some member of your family may have the craze. If not, some neighbor will suggest a trip with a basket luncheon in the open, and you will succumb. It has to be. Only a few manage to pass the summer without at least one such outing.

We may only have a picnic meal in the woods some afternoon, or we may camp outdoors for a two weeks' vacation. Whatever we do the kind of equipment we have means something, while the presence or absence of mosquitoes means considerable. The kind of weather we have means a great deal—but the food we take along and the way we prepare it means everything.

One night on the ground with a single blanket, or stretched on a

The Outdoor Meal

*What the Camper Should Eat, and
How He Should Prepare It*

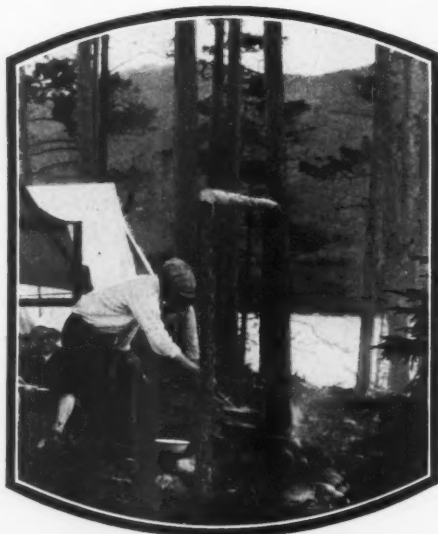
By BETTY BARCLAY

camp cot with nothing underneath except the cot canvas tends to teach the beginner that hay, sweet fern, straw, or evergreen is very desirable for a bed. He'll buy another blanket, get the hay-straw habit, and sleep comfortably thereafter. But when it comes to meals he'll putter and stew and fry, sweat and swear, and find his stomach rebelling more and more during a camping trip unless he learns beforehand what he should eat and how he should prepare it.

The outdoor meal should be as well balanced as the one at home. Few realize this. In fact, few know much about balancing; but more by good luck than good management they have learned to balance their home meals fairly well. Meat, bread, fish, and eggs—these are good foods that have come down through the ages. Greens and fruits are now obtainable everywhere and at all seasons; and the daily salad and morning orange are common everywhere. As the first foods mentioned are acid-producers and, as green vegetables and fresh fruits are almost all alkaline foods, a combination of the two tends to furnish a balanced diet.

But in the open the beginner depends too much upon the acid-producers—and trouble begins promptly. Ham, eggs, fried fish, steaks, pork chops, bacon, biscuits, twist—all acid-producers, and those who camp know that this covers most of the foods campers rely upon. Yes, there are potatoes and beans; but, no matter how good these are, one can hardly expect them to carry the load of alkalinity that is necessary.

You start your camp breakfast with cereal—an acid food. You rush through to bacon and eggs—more acid. You finish up with bread and coffee, and after two or three days of this you wonder



Come and get it!

what is wrong. Get away from this. Carry alkaline foods with you, purchase them en route, or pick them as you camp. Take your choice; or better still, unite the three and get your supply from all sources.

You can get spinach, celery, onions, beets, carrots, fresh peas, string beans, corn, and cabbage from road markets or from farmers—and you can get them fresher and tastier than those you usually get at home. Too, they are easy to cook in the open. Purchase milk, cream and butter from the farmers. Milk is an alkaline food and the kiddies should

nished each day know how true this is. The type of water changes as the tour goes on, but when it is liberally lemonized you feel quite sure of its safety.

Of course when you become real children of nature you will begin to nibble and feast upon such things as partridge berries, wintergreen, spearmint, wild ginger, wild peanuts, Indian cucumbers, elderberry, wild rice, chickweed, clover, Indian turnip, sassafras, watercress, pennyroyal, wild peas, wild onions, rock tripe and Jerusalem artichoke—but until you learn how to tell rock tripe from a dangerous fungus



The meal in the outdoors should be as well balanced as the one at home, says the author. Greens and fruits should have a place on the camp table, along with meat, bread, fish, and eggs

drink it as plentifully when camping as when they are home.

Then there are the fruits and the berries that may be carried, purchased or picked. A big bag of oranges and lemons should always be taken from home. Apples, peaches and pears may be purchased as you ride. Strawberries, raspberries, blackberries, blueberries, and many other foods of nature may be gathered near the various camping spots, and eaten alone or with cream and sugar for dessert.

Oranges and lemons are particularly valuable for camp foods. The breakfast orange is assured, and also a safe bite between meals to be used by hungry kiddies in place of the usual more-or-less dangerous "hot dog." The lemons may be used to purify the water and to serve an alkaline drink for the midday or evening meal. A pail of lemonade set in a cool spot near the camp is one of the best safeguards of health that a party of campers can have. Those who see that one is fur-

growth, or partridge berries from something that will double you up with poison cramps, it is well to depend entirely upon fruits and vegetables you are familiar with. Of course, each camper, particularly the one who lived in the country at some time or other, will recognize and delight in a few of these delicacies furnished by nature herself.

Some will feast on checkerberries; others will stew the fresh leaves of clover and serve as a salad with vinegar and salt. Still others will gather watercress and serve it in the open. More will content themselves with the wild strawberry, the raspberry or the huckleberry—something recognized by all.

But see that your meals are balanced in some manner. Your health demands it, and if you are to camp again, year after year, you'll find the balanced meal the best argument in favor of a repeat trip that can be found.

FOREST PEOPLE



The sprouting willow log

The Canadian Willow Planter

*Who Uses Trees to Combat Floods and
Make Rivers Behave*

By ALICE WATTS HOSTETLER

IT MAY be, as Oliver S. Scheifele says, "Every country boy knows that a piece of willow buried in the ground will invariably sprout." However, he was one country boy who converted this natural phenomenon into a remarkably successful factor in erosion and flood control—a cure for just such grief as the Mississippi caused on its 1927 tear.

"I plant my trees horizontally instead of vertically and I plant willow poles instead of seedlings," explains the inventor of what is called angular, submerged tree planting. "By laying the logs about four feet apart in trenches in harmony with the slope of the bank—their feet in the water and heads in the sun and air—a root and tree growth is initiated that will defy the ravages of any raging waters. After three years time rampaging rivers cannot budge banks so protected."

"You can visualize this method," he says, "by making a mental picture of the framework of a house roof. The willow poles represent the rafters; the water level, the eaves; and the top of the bank, the ridge pole. Naturally, a system which prevents

erosion and holds rivers in their banks will go far to solve the problem of silted harbors, disappearing beaches, and undermined highways."

Between trips to all parts of the world where he is called by his unusual business Mr. Schiefele is found at his home in Waterloo, Ontario. He is ruddy of cheek, blue-eyed, forty-one years old, a man of the outdoors always.

His suggestions as to Mississippi flood control, and the method by which he would handle the silt problem in harbors, are probably of most interest to Americans. Mr. Scheifele hopes within two years to screen the mud banks of the River des Pères, near St. Louis, Missouri, from view with a willow thicket which will guide the channel in the way it should go. The work was executed this spring and the results will be keenly watched by federal, state and municipal engineers throughout the Middle West.

Owing to the deep scouring nature of the Mississippi and the Missouri Rivers, Mr. Scheifele does not promise miracles in dealing with these temperamental



Oliver S. Scheifele, the Canadian willow king, examining willows planted by his novel method on a 12-foot levee to prevent wave action. The willows were put in three years before this picture was taken. The growth is very rapid.

waters. However, he believes that willow planting will be at its best on the many smaller tributaries and will be a factor in preventing the tantrums of the Father of Waters.

He advocates that all levees along the Mississippi should have a heavy tree growth on the foreshore and river face to protect them against wave action and scouring.

"Continuous and even tree growth will prevent eddies and stop action of wave and currents. A score of trees springing from each willow log will make the whole face of the levee immune to erosion and burrowing animals. The silt reclaimed from the water will make levees thicker." That is the answer of the flood fighter from Canada to the engineers' complaint that trees on river margins and levees tend to form clumps around which waters eddy and swirl with increasing damage. He points out that investigation has disclosed that wherever there

When the Ontario government was faced with the question of what to do with the sand dunes of Prince Edward County he had worked out his system of angular willow planting and he convinced the authorities that he should be given a chance to try it. He faced a man-sized job, for the



Continuous and even tree growth will prevent eddies and stop action of waves and currents, says the willow king. A score of trees springing from each willow log will make the face of a levee or river bank immune to erosion and burrowing animals. Above, the original condition of a river bank before Mr. Scheifele placed his willow logs horizontally in a trench (left). In four months the willows had sprouted and the river bank took on the appearance of security, as shown below

were heavy stands of timber, erosion was slight, and that on miles of levees with tree growth there was no injury whatever, destruction occurring on cleared land.

This man who matches wits with nature's wiles maintains that large sums spent annually by this country at various ports in removing silt could be saved. He would plant willows along the river and tributary banks to prevent erosion and slides, and greatly lessen accumulation of silt in harbors or the mouths of rivers.

When Oliver Scheifele was twenty he conceived the idea which was later to bring him the title of "Willow King." He watched men of his family plant willow saplings in an effort to protect their fields from the spring floods. He determined right then that he was going to use this principle and make it work with even a larger degree of success, for he was convinced that enough willows would do the business. To raise capital for his enterprise, to learn business methods, and to bring the willow into favor, he went to western Canada where he sold bundles of willow switches to farmers on the prairies for windbreaks.



hills on the lake shore had been denuded of timber, and cattle had grazed the plains until they were barren. Sweeping winds had created mounds of sand thirty feet high, leaving in their wake a morass.

In 1922 he started his experiment which ended so successfully that he has secured many Canadian and American government and private contracts. As he always does, Mr. Scheifele maintained his project for three years, at the end of

which time he considered it established. Mr. Scheifele has used the willow to meet various phases of the erosion problem. He has harnessed a creek that was causing great expense and annoyance to the Erie Railroad by depositing silt upon the tracks during flood season. Protective concrete construction would have been prohibitive in cost; preventive planting cured the trouble at its source. From a planting of 65,000 running feet of white willow poles in 1923 on the slopes of the creek's channels, both banks became lined with trees, and the channel became lined with roots, retarding deeper cutting.

Where erosion had undermined the road bed of a bridge approach near St. Thomas, Ontario, an expensive and elaborate concrete wing dam seemed the only solution. At one-fourth the cost, willow planting saved the situation.

Mr. Scheifele says that pioneers of road construction knew that hillside cuts should be protected by willow planting. In one case where the willows were destroyed, he was called to remove the cause of damage to a heavy concrete road by replanting the denuded banks.

Along the Chippewa canal, in Ontario, the deep cut was widening every year. A willow planting project about two miles long stopped frost and wave action, and approximately twenty acres of land were reforested. In fifteen years the timber production will pay the cost of that project.

In one place where the beach was gradually washing away on Lake Erie, and vacationists faced the ultimate loss of their summer homes, he not only stopped the gnawing of the waters, but restored an extensive beach.

Although the willows are water lovers, he has succeeded in planting windbreaks on prairie farms far from water by the horizontal method. Grazing lands can be made agricultural lands, he maintains. Experiments have shown that drifting sand dunes can be reforested and cottonwood and poplars have been used successfully.

Mr. Scheifele prefers to use the *salix alba* or white willow in his work. The willow has an added value in that the stump continues to grow after cutting and will be a continuous source of supply of branches and poles and pulpwood.

Mr. Scheifele says that individual farmers and sportsmen can protect their farms and preserves by using his method

themselves. He explains the process very simply: "Plant live willow logs or poles in trenches in a horizontal or angular position that is in harmony with the slope of a river bank or lake shore. The angle can be three to one, or forty-five degrees. A tree and root growth will develop the entire length of each pole planted, whether it be five or fifty feet long. Young trees will shoot up to a surprising height in a summer—from three to six feet—and the seeking, spreading roots will go to amazing depths—as far as fifteen feet. It is necessary to use temporary artificial protection to stop erosion until tree and root growth are advanced sufficiently to resist floods. The kind of protection, varying from brush mats to sand bags and stone rip-rap, depends on the conditions to be met.

"This horizontal planting gives many advantages over individual tree planting. The resulting tangling roots and thick top growth will resist the vicious slapping of waves and the mad onrush of current. Growth is promoted with all the advantages of adequate moisture and light and air. The foot of the willow log is always submerged and will supply moisture so that the trees at the extreme upper part will grow as prolifically as those close to the water. The top of the pole, always above high water, supplies sun and air, sustaining life even when vegetation is under water throughout the flood period. Naturally, a group of young trees springing from such a staunch base will be more hardy in resisting wind and weather than single seedlings bravely facing the elements.

"It is interesting to note that even willow posts, used to anchor angularly planted logs, themselves sprout, sending out their roots and shoots to help the cause. This tree growth will never fall, roots and all, into the river. It cannot slide and it will prop and support the bank, giving it proper slope and rigidity."

"When you look at the soft green foliage of willows lining well-behaved and serene streams and rivers, and know that these pendulous branches proclaim a root entanglement that takes the menace out of spring floods, your appreciation is of beauty based on service. Those sturdy willows will do what no other trees will attempt—reclaim desolate ground. After the willow furnishes first aid, stately pines and other beautiful trees can do the nursing that restores lands to health."

WATCH FOR THE JULY "NATIONAL FOREST" NUMBER

As a tribute to the National Forests of America and to the men who are responsible for the high place they occupy in the economic and social life of the nation, and to present them in a new and highly interesting light, the July issue of American Forests and Forest Life will be devoted exclusively to the National Forests. The issue will be bigger and more beautifully illustrated and will present the history, purposes, and future of these great forested areas in a popular style. Articles by the outstanding men connected with the National Forests and their history—Pinchot, Stuart, Allen, Barnes, Sherman, Ayres, Zon, Redington, Leopold—will appear in this issue, as will many others.

As this issue will be limited, orders for additional copies should be placed now.

President to Appoint Timber Conservation Board

PRESIDENT HOOVER has announced, through Secretary of Commerce R. P. Lamont, that he will appoint a National Timber Conservation Board to make a study of overproduction in the forest industries of the United States and to recommend remedial action based on public interest. This announcement followed an appeal to the President on April 30 by a group representing The American Forestry Association, the forest industries and the Society of American Foresters.

The proposal of a Board was presented to the President by John H. Kirby, representing the National Lumber Manufacturers Association, and by George W. Sisson, Jr., representing The American Forestry Association. Supporting the proposal, those also in conference with the President were William B. Greeley, former chief forester of the United States, now secretary-manager, West Coast Lumbermen's Association; E. L. Carpenter, E. G. Griggs, W. M. Ritter, A. J. Peavy, Wilson Compton and Franklin Reed of the National Lumber Manufacturers Association; Paul G. Redington, president, Society of American Foresters; Chester Gray, American Farm Bureau; and Jesse H. Neal, general manager, American Paper and Pulp Association.

In addressing the President, Mr. Sisson said, in part: "Speaking for The American Forestry Association, whose attitude has always been for such policy and action as would assure permanent, productive and wisely used forest resources, we deplore any situation which endangers such desired results.

"Chronic overproduction in the forest industries is today the greatest threat to this desirable, balanced use of our forest resources. Thus it becomes charged with a great public interest and this, therefore, is warrant for an honest attempt to discover causes and possible remedies. To this end The American Forestry Association favors the appointment of a National Timber Conservation Board to study this problem and recommend remedial action based on the public interest."

The board was proposed to act solely as a fact-finding agency and to make such recommendations as the findings of fact warrant. Created by presidential appointment and composed of outstanding men, representative of the forest industries, the forest conservation movement in its broad aspects, the government and the general public, the Board will function with the aid of the best industrial experts and forest economists it is possible to obtain.

It is not proposed, it was stated, with the idea that it can or will attempt to frame a broad national forest policy but rather to direct its activities to the national economic problems involved in the supply and use of forest products and the maintenance of these sources of employment and national wealth. The President was told that one of the most aggravated problems pressing for constructive handling is the almost chronic over-production which has characterized the forest industries for the past decade and a half. It was pictured as becoming progressively worse instead of better and as threatening the forest industries with economic chaos. The situation, it was asserted, is contributing to destructive lumbering, unnecessary waste of wood, and the premature cutting of timber needed in the future. It is having a deadening effect upon forest-land values and the practice of industrial forestry; it is driving

forest land from the tax rolls of many states, with serious effect upon local and regional prosperity and the security of employment; it is a serious obstacle to sustained land use, fire protection of productive areas, and a permanent supply of raw wood important to industry and commerce.

The objectives of a National Timber Conservation Board were presented as determining the important assets and liabilities in the present balance sheet of our forests and forest industries; points of economic strength or weakness in the present forest situation; and whether present knowledge is adequate or inadequate for the formulation of sound policies and programs.

The basic economic causes of the prevailing condition of



George W. Sisson, Jr.

over-production of forest products and consequent waste of timber, depletion of forest resources, and insecurity of employment in the forest industries will be sought, as will possible remedies in terms of public and governmental policy.

Present method of annual property taxation of timber and forest lands and its economic consequences as deterrent to conservation or a stimulus to premature and wasteful cutting of timber is another problem.

East Swept by Spring Forest Fires

WITH hot, dry weather and high winds prevailing, forest fires in April and early May swept over more than a million acres in the eastern states, taking human life, destroying homes, factories and endangering a score of towns and villages. Property and timber loss will amount to millions of dollars. In New Hampshire nearly a thousand people were made homeless as forest fires started a series of blazes in Nashua.

In New Jersey thousands of regular and volunteer fire-fighters fought blazes which destroyed forests and homes. Oil wells and small towns in the vicinity of Polard, West Virginia, were endangered, while Maryland, Pennsylvania, Delaware, Virginia, North Carolina and all of the New England states felt the menacing effect of fire.

Smokers, brush burners and the railroads accounted for a good portion of the fires, state officials have announced. With the situation still dangerous in every section of the East, complete information was not available at the time of going to press. The following reports from the various states represent the best summary obtainable.

New Jersey, from May 1 to 10, had 320 fires which burned over 110,000 acres, causing a property damage of \$700,000, according to C. P. Wilbur, state forester. In numbers the fires have been 100 per cent more than normal, and the total acreage burned is about five times the area ordinarily burned over in the spring. Fifty homes were destroyed, including a large part of a village. One of the major factors in keeping the situation well in hand has been a continuous air patrol of the whole area, said Mr. Wilbur.

Nine hundred fires in New York burned over 30,000 acres, according to W. G. Howard, superintendent of Lands and Forests. Smokers caused about fifty per cent of the fires, railroads twelve per cent, while fishermen are blamed for eight per cent. The situation is so serious, said Mr. Howard, that the governor has issued a proclamation forbidding persons going into the woods of the Adirondacks and Catskills for any purpose other than that of necessary work.

In Connecticut 750 fires have been reported. More forests were burned on May 4, said A. F. Hawes, state forester, than in the whole of 1929. A tabulation of the fires show that thirty-seven per cent were caused by smokers, twenty-four per cent by brush burners, eight per cent by railroads, and five per cent by incendiaries.

According to John H. Foster, state forester of New Hampshire, 550 fires have burned more than 11,000 acres in the state. This is unprecedented in the annals of the department.

"Damage and cost of fighting fires," said Mr. Foster, "will be comparatively heavy on account of improved property burned and the necessity for long patrols in view of the

drought. The governor's power to restrict entry into woodlands was invoked May 1 and woodlands of the state were closed to all persons except owners, their agents or employees."

Thirty-eight per cent of the fires in New Hampshire were caused by smokers, twenty-two per cent by railroads, and twenty-one per cent by brush fires.

Incomplete records in Pennsylvania show that approximately 2,900 fires occurred in the state during the past spring, 1,000 of which occurred from May 1 to 11. This is the largest number of spring forest fires that have burned in the state since records have been kept, according to J. S. Illick, state forester.

Virginia experienced the most dangerous forest fire situation during April and early May in the history of the State Forest Service, said Chapin Jones, state forester. Fires are estimated to have swept over 100,000 acres of privately-owned timberland in the fifty-eight counties in Virginia which are organized for forest fire control. In addition, several thousand acres in the Natural Bridge and Shenandoah National Forests were burned over.

The most serious fires have been attributed to brush burners and to fishermen.

Fires in Rhode Island burned 35,000 acres, one-eighth of the forest area of the State. Damage is estimated at \$500,000 in timber, according to Harry R. Lewis, commissioner of the State Department of Agriculture. Ninety per cent of the fires were caused by carelessness, chiefly by smokers.

"The extreme hazard and the devastating forest fires brought about such dangerous conditions," said Mr. Lewis, "that the governor deemed it necessary to close the fishing season May 2. Fires have been more devastating and the spring season has been more hazardous than any on record."

In North Carolina, 2,161 fires have been reported, and 123,191 acres have been burned over. Probably more than 500,000 acres have been burned over on areas not having organized fire protection, and which have not been reported. The chief cause of the fires have been careless brush burning and incendiarism. Smokers accounted for about eighteen per cent.

The situation in Maryland has been unusually severe. Seven hundred fires have burned over 60,000 acres, causing a damage of more than \$250,000. Brush burning caused most of the fires, although there were quite a number of incendiary origin.

West Virginia has had 1,300 forest fires which burned about 150,000 acres. Minnesota's 450 fires burned over 54,000 acres, and were caused chiefly by brush burning and fishermen. Vermont had 200 fires which burned over 15,000 acres.



EDITORIALS

The Cedar or the Apple?

THE wholesale destruction of red cedar trees in West Virginia, as told in the article "The War of the Cedars," published elsewhere in this issue, is a tragic story. That both parties to the war are right in part makes the situation a particularly difficult one with which to deal. The intensive enmity which has recently developed between the apple tree and the cedar tree is a case of symbiosis, or plant association, which dates back to before the arrival of white men in America. Through all this period there appears to have been a passive enmity between the two trees, in that a cedar rust has fluctuated between the red cedar and native varieties of the eastern crabapple. For 300 years or more, these trees have grown in close proximity with no ill effects. Then came varieties of apples from Europe and new varieties cultivated in this country, and among them the cedar rust appears to have found a host more to its liking than the rusty crabapple. In any event, the disease passed over without warning to a single variety of these cultivated apples, disfiguring the fruit so as to make it unprofitable. Later it attacked another variety and then another, until now many varieties of apple trees growing within two or three miles of red cedars are endangered by a more or less virulent infection of the rust.

It is perhaps natural that orchardists should have become alarmed and demanded that all the country be made safe for apples by the wholesale destruction of red cedars. It is unfortunate that some of them in West Virginia, at least, apparently became panic-stricken and were guided more by fear than by reason. We agree with Miss Brooke that the law

as enacted by West Virginia and the methods of destruction as carried out there smack of stupidity. The red cedar is not without value. It is one of America's trees of distinctive character. It is a home and country beautifier of the first order. It is a tree of high economic value. To outlaw it wholesale and without a fair trial of reason certainly borders on the stupid.

What the situation apparently calls for is some modern regional planning in those states where both apple trees and red cedar trees have social and economic values. It goes without saying that there are some regions where apple-growing has no profitable place and where preservation of the red cedar will serve a higher social and economic need than unprofitable or excess orchards. A relative weighing of values is essential to the highest development of every community and every region. A county is too large a territory to be controlled by a few panic-stricken citizens, even though their investments are large and should be respected. Planning on a smaller area unit basis would permit the better weighing of relative values and a clearer discrimination of intelligent lines of action. A cedar tree may be just as valuable to one person as an apple tree is to another and the comparative value of cedars to a community as against apples or vice versa calls for regional planning of the highest order. It is hoped that other states will draw a lesson from West Virginia's experience and deal with their apple trees and cedar trees in a more judicial and thoughtful manner.

The Timber Conservation Board

PRESIDENT HOOVER in the course of the next few weeks will appoint a National Timber Conservation Board to study the problem of overproduction, with which the forest industries have long been confronted, and to make recommendations as to ways and means of remedying the situation. Assurances to this effect were given by the President at a conference on April 30, when representatives of the forest industry, the profession of forestry and the public laid the proposal before him and pointed out the growing seriousness of overproduction in the forest field. George W. Sisson, Jr., representing The American Forestry Association, told the President that chronic overproduction in the forest industries is today

the greatest threat to balanced use of our forest resources. The situation, he said, involves great public interests and warrants an honest attempt to discover causes and possible remedies.

Thus wood will take its place alongside oil, coal and agricultural products for constructive study by an agency representing the Federal Government, the industries and the general public. Certainly, a timber-conservation board can render as great a public and industrial service to the country in the field of forests as can similar boards or commissions in the fields of agriculture, petroleum and coal. The average citizen does not clearly understand the present situation in respect to forest supply and demand. To

him, overproduction of lumber and forest products in the face of much-talked-about timber shortage seems a paradox and arouses suspicion. He fails to distinguish that overproduction in the forest field is a present situation and that timber shortage in a national sense is of the future. Overproduction today means that we are drawing upon our remaining forest principal more heavily than the needs of the country demand or warrant and are thereby hastening the day of timber shortage.

That the situation has reached a highly aggravated and serious stage is generally admitted. Its solution will not be easy because its effects are far reaching and interwoven with the whole economic problem of sustained forest-land use. A decade or more of overproduction has brought the lumber industry and many related forest industries to a chaotic state that threatens the soundness of their investments and the existence of the labor dependent upon them. It is contributing directly to the waste of wood in the forest and at the factory. It is hastening the cutting of immature as well as choice timber in an effort to meet current investment charges. It is robbing industrial forestry of its incentive and is forcing owners to abandon their lands rather than pay taxes and reforest them.

Thus overproduction goes to the very heart of permanent forest-land use and the practice of commercial forestry. If it

will not pay to cut timber on a sustained-yield basis or to reforest or to provide adequate fire protection, the bottom must eventually drop out of forestry as a commercial enterprise. This is the inescapable corollary of present-day overproduction as it bears upon sustained use of some sixty or seventy per cent of the forest lands of the country.

As pointed out to the President, overproduction is only one of a series of major problems involved in our forest situation; but it must be constructively solved if the forest industries are to be placed on a sound and permanent basis and the practice of commercial forestry given free flow. Those proposing the board do not hold that relief from overproduction will solve the whole forest situation; but they do maintain that overproduction has reached a critical point and that its constructive solution will serve to clarify the handling of other major problems. With this view, The American Forestry Association is in accord, and it is glad to join with the industry, the Federal Government and all other interests in a sincere cooperative effort to remedy conditions. The creation of a timber-conservation board is in keeping with the modern trend of thought and action in dealing with supply and demand in our basic industries. It is hoped that the board to be appointed by President Hoover will bring to bear upon this phase of the forest problem the efforts of the best brains of the country.

Oily Waters

OIL leaks from a thousand and one sources have become a conservation problem of no mean dimension. The needless waste of oil, it is readily apparent, is a factor in shortening the life of our oil resources; but that is not the phase of the problem which legislation now pending in Congress seeks to ameliorate. This legislation, introduced by Representative Grant M. Hudson, of Michigan, and known as bill H. R. 10625, is aimed to prevent the destruction of plant and animal life resulting from uncontrolled oil leaks and wastage.

One needs only to visualize the hundreds of thousands of places at which oil is used today to appreciate the magnitude of the problem of oil wastage and its menace to plant and animal life if not properly controlled. Wasted oil from any or all of these diversified sources finds its way to the ground or into sewers and is washed into streams or lakes. Much of it finally reaches the sea. Oil does not mix with water but is carried by water; and, as almost everyone knows, oil is incompatible to animals, birds and plants. Dr. G. W. Field, an eminent biologist who has made a life study of pollution, says in respect to oil waste in our streams:

"The oil forms a film over the water, spreading to rivers, bayous, marsh lands and the sea coast. It has been proved that an oil film one-millionth of an inch thick is sufficient to ruin the waters for fisheries. This film affects the fisheries in two ways: by destroying the fish eggs or the young fish, and by destroying the food upon which fish feed.

"Most fish deposit 'pelagic' eggs which, at a certain time

in their life cycle, rise to the surface of the water. Here they come in contact with the oil and are destroyed. This oil film, too, becomes weighted with dust and minute debris, until it finally sinks through the water, carrying down with it all the microscopic plants and animalcules upon which fish feed, destroying them. This weighted oil film finally comes to rest on the bottom, destroying oysters and shrimp and killing the food plants which grow on the bottom."

These ill effects, Dr. Field says, may sound fantastic, but they have been proved beyond any doubt. Hunters tell of shores strewn with dead ducks which have starved in the midst of plenty. Examination of the birds' feathers revealed a coating of oil heavy enough to keep the birds from flying. With surrounding aquatic and plant life killed, the imprisoned birds succumbed to starvation.

Representative Hudson's bill is designed to control this situation by making it unlawful for any person to discharge or permit the escape of oil into or upon the navigable waters of the United States. It would further empower the Secretary of Agriculture to prescribe regulations permitting the discharge of oil from vessels only in such quantities and under such conditions as will not be deleterious to health or sea food, to the migratory wild fowl or to the food supply of wild birds protected by treaty acts. While the effect of oil waste on forest growth is doubtless of minor importance, its effect in other fields of conservation, particularly fish and wild life conservation, has become critical in many regions, and the early passage of the Hudson bill should be encouraged.

Recording the Progress of Forestry

Accomplishments of Forester and Lumberman to Be Shown in Rosenwald Museum of Science and Industry

By HELMUTH BAY

FORESTRY has always been regarded as the science of conserving and producing trees, while lumbering was considered to involve the methods of utilizing them. As a matter of fact, logging is just as important a part of forestry as close utilization and future crops are factors of lumbering. In reality, forestry and logging are one and the same, for neither one can be successfully practiced without application of the other. Thus the only solution to the question of conservative and economic treatment of the remaining timber resources of the United States can be obtained through the cooperation of lumbermen, foresters and the general public, who, in turn, must first be thoroughly acquainted with each other's problems.

To record the accomplishments of both forestry and lumbering, an extensive exhibit of the activities of each will be included in the Museum of Science and Industry, which is being established in Chicago. This institution was founded by Julius Rosenwald on his return from a tour of study and observation in Europe, during which time he visited the Deutsches Museum in München, the Technisches Museum in Wien, the Science Museum in South Kensington and others. Struck by the fact that the United States, in spite of its achievements in science, engineering and industry, possessed no collection or record of its accomplishments, he broached his plan to the Commercial Club of Chicago, offering to endow such a museum with \$3,000,000 to be spent for equipment alone. The proposal was received with great enthusiasm and a board of trustees and committee of administration were immediately formed. The city, awake to the situation, responded

by authorizing the restoration of the old Fine Arts Building, an architectural masterpiece dating from the World's Columbian Exposition.

In line with the general plan of the Museum, the Division of Forestry will consist of a detailed explanation of the application of science and invention to the utilization of forest products in all parts of the world. It will be introduced by an exhibit explaining how the contents of a timber stand are determined. This is to be followed by a silvicultural group illustrating economic methods of harvesting timber, including reforestation and protection. The effect of selective logging on tree growth will be demonstrated. A dramatic diorama of a forest fire, together with the factors of communication, detection and suppression will conclude a fairly complete picture of the scientific treatment of the forest.

Next in order is logging, an operation which is primarily a question of transportation and which will be represented by a number of miniature "logging chances," models and a collection of implements. Here the visitor may see the logs loaded on cars by steam loaders, the sleigh haul on an iced road, tractor logging, fluming, driving and overhead line logging. Models and replicas of the dray, big wheels, geared locomotives, dams, jammers, log slides, axes and many other devices and tools will permit the visualization of methods which topography, climate and location of timber have forced lumbermen to apply. The scope of the museum being international, it is also planned to depict processes in foreign countries. Supplementing this exhibit, as well as the others, will be an extensive collection of motion pictures, slides and photo-



Museum of Science and Industry, recently endowed by Julius Rosenwald, which is being established in the old Fine Arts Building of the World's Columbian Exposition at Chicago. Extensive Exhibits will record the achievements of forestry and the forest industries

graphs. In the display of sawmilling it is proposed to show the evolution of the saw—the basic tool of the industry. Beginning with the sharp-edged flint of our Neolithic ancestor, the display will pass through the Egyptian, Greek, Roman and early European civilizations, showing the saw as it was steadily improved and developed. One-man sawing, pit sawing, mulay sawing, ancient power mills, early gang saws, circular saws, band saws—each will be treated so that it will be possible to follow the history of this cutting implement from the Stone Age to the present era of high-speed band mills and efficient gang saws. Kiln-drying and special treatments of lumber will complete the group.

In a like manner it is proposed to treat all special phases, such as the manufacture of turpentine, woodenware, rubber, veneer and plywood, cooperage, cork, camphor, maple sugar, dyes, tanning extracts, excelsior and boxes, and, whenever

feasible, actual machinery will illustrate the methods involved. Plans for the exhibit on paper-making call for rather detailed treatment. The history of paper is to be depicted, as well as the intricate processes involved in the manufacture of modern paper by high-speed machines. Hand-made paper will be made before the eyes of the visitor. There will be a model of a large paper plant with conveyors, storage pile, tumbling barrels and barkers, chippers, grinders, digesters and paper machines. The relation of chemistry to the industry will also be stressed.

In calling attention to the cultural effects which applied forestry has had upon man, there will be opportunity to demonstrate the importance of a timber supply to national welfare and prosperity, and to show the great necessity for economic utilization of the world's forest resources.

Martin L. Davey Broadcasts Tribute to The American Forestry Association

Martin L. Davey, former Congressman and president of the Davey Tree Expert Company, of Kent, Ohio, on May 4 paid a high tribute to the work of The American Forestry Association. Devoting a good portion of the Davey Tree Surgery Hour, a coast-to-coast radio broadcast over the network of the National Broadcasting Company, Mr. Davey said, in part:

"It is my desire to digress for a brief time to pay a just and merited tribute to The American Forestry Association. We have countless societies in this much-organized country, most of them useful and meritorious, but the larger part of them devoted to the advancement of some particular group or to projects of limited scope.

"But here is an organization, The American Forestry Association, which has labored unceasingly and courageously for many years for the advancement of the common good. It serves no individual selfish interest, and seeks to gain no advantage for any group. The whole purpose of its honorable existence has been to advance the cause of conservation in this country, that has been so profligate in the wasting of its natural resources. . . .

"In later talks it is my purpose to discuss in more detail this large and far-reaching question of conservation, but my purpose today is merely to make reference to it in this brief way, and to pay public tribute to The American Forestry Association. There is nowhere in this country a more unselfish organization devoted to the general welfare of the nation and its people.

"For many years this Association has carried on courageously and earnestly and with determination in the cause of conservation. They have done this largely in the face of general apathy and indifference, and in spite of an amazing lack of sympathetic consideration by the average public official. Little by little they have been able to secure the passage of some beneficial legislation and all-too-inadequate appropriations. But they represent a great and fundamental cause, and the people are gradually awakening to its importance. They will be able to succeed in a larger and larger measure as there develops in this country a rising tide of public opinion to support them in their noble work."

Conservation Legislation in Congress

PARLIAMENTARY strategy recently marked the progress of the Knutson-Vandenberg bill to enlarge tree planting operations on national forests. The original bill (H. R. 5410) emerged from the House Committee on Agriculture materially changed. This resulted in delay, permitting Senator Vandenberg's bill (S. 3531) to pass the Senate on April 11, before action could be taken by the House. On May 5, the House accepted the Vandenberg bill as passed by the Senate but substituted the provisions of the House bill. This brings two different Senate bills before the Speaker and assures their consideration in conference. The change was accomplished after the adoption of an amendment introduced by Representative Cramton of Michigan, permitting the Secretary of Agriculture, upon application of the Secretary of the Interior, to furnish seedlings and young trees for replanting burned-over areas in national parks. The Senate bill would authorize more money over a longer period with which to carry on the planting work while the House bill provides a more satisfactory method of conducting the silvicultural operations on national forest timber sales. The bill will go to conference and has reasonable assurance of being passed during the next few weeks. The conferees are Senators Charles L. McNary of Oregon, Joseph E. Ransdell of Louisiana, and George W. Norris of Nebraska, and Representatives Gilbert N. Haugen of Iowa, James B. Aswell of Louisiana and Fred S. Purnell of Indiana.

On May 7 the House passed Representative Clarke's bill authorizing an appropriation of \$3,000,000 a year for the two years following June 30, 1931, with which to continue the land purchase program of the Weeks law as at present conducted under the McNary-Woodruff law. Commenting upon his bill, Representative Clarke said: "We had hoped we could have a ten-year purchase program, and the National Forest Reservation Commission recommended such a program. * * * But the Bureau of the Budget has felt we would have to hold ourselves down a little, so we have fallen into the spirit of that suggestion." Representative Leavitt of Montana said: "I consider this one of the most important bills before Congress. I am interested in the statement regarding the reason why only a two-year program is provided for in this authorization. It occurs to me that it may be necessary because of the Budget situation, but, looking into the future, it must also be realized that this appropriation will not be large enough, and the program will have to be extended as years go by."

The conference report on the Agricultural Appropriation bill submitted by Senators Charles L. McNary of Oregon, Wesley L. Jones of Washington, Henry W. Keyes of New Hampshire, William J. Harris of Georgia, Lee S. Overman of North Carolina, John B. Kendrick of Wyoming, and Representatives Robert G. Simmons of Nebraska, John W. Summers of Washington, James P. Buchanan of Texas, and John N. Sandlin of Louisiana, was adopted on May 20.

The conferees retained the entire appropriation for \$50,000 for the study of forest devastation, to the end that means of relief may be suggested. They retained the Senate appropriations of \$10,500 for studies of southern hardwoods, \$5,000 for forest studies in northern Georgia, \$15,000 for studies of pulp possibilities of soft woods, and \$100,000, together with authority to obligate an additional \$800,000 for the construction of laboratories for the Forest Products Laboratory at Madison, Wisconsin. The total appropriation for the Forest Service now stands at \$15,859,230 which is an increase of \$2,834,950 over appropriations for the present fiscal year.

With regard to items for the Biological Survey, the conferees retained \$2,000 for the study of diseases of fur bearing animals, but struck out \$5,000 for the purchase of fur bearing animals for studies at Saratoga Springs, New York. They also struck out items of \$40,000 for studies concerning the destruction of young wild ducks by sea gulls, and \$4,157 for identification of birds and animals. They appropriated \$40,000, as provided by the Senate, instead of \$15,000 for investigations and demonstrations concerning musk oxen in Alaska.

The Department of the Interior appropriation bill has been passed and carries nearly ten million dollars for the National Park Service, including \$1,750,000 for acquiring privately owned lands and standing timber within the boundaries of existing national parks and national monuments. The bill also includes appropriations for administering and protecting forest lands on the Indian Reservations.

The Bureau of Fisheries' five year construction and maintenance program (H. R. 7405) authorizing expenditures totaling \$3,335,000 passed the House and Senate, and on May 13 the House agreed to certain Senate amendments. The bill authorizes \$1,835,000 for the construction, purchase, or enlargement of 31 stations, bringing the total to 106.

On May 5 President Hoover approved the Colton-Oddie bill, authorizing \$12,500,000 for roads and trails on national forests. This is an increase of \$5,000,000 above appropriations for similar work conducted on the national forests.

The Englebright bill, authorizing \$4,500,000 for the construction of permanent improvements on national forests to protect them from fire, remains with the Committee on Agriculture. This bill received the approval of the Director of the Bureau of the Budget, and the hearings have been published, but the committee has postponed action.

On May 5, Senator Shipstead's bill (S. 2498) to provide a coordinated program of forestry and recreation in the region of the Superior National Forest, passed the Senate, and is now upon the Speaker's desk. The fact that the House bill (H. R. 6981) does not differ materially from the Senate bill should encourage passage at this session of Congress.

Senator Norbeck's bill, to provide Federal protection to the bald eagle, has passed the Senate, but the House bill, introduced by Representative Andresen of Minnesota, remains with the House Committee on Agriculture.

Conference Advances New Ideals

(Continued from page 342)

Michigan. Under the plan any individual or organization is given the opportunity to plant forty acres or more at the rate of \$2.50 an acre, the planting labor cost. Other expenses are borne by the state. These areas are then set aside as a forest reserve, becoming an enduring permanent reservation. When it becomes necessary or wise to harvest the crop, said Mr. Stoll, harvesting will be on the selective logging basis. Approximately 140,000 persons have contributed to this reforestation movement.

Speaking of the press of the country, Mr. Stoll said: "All of us can recall that less than ten years ago a page in a newspaper devoted exclusively to conservation subjects was unheard of. An occasional item of interest, feature stories and casual news bearing upon this subject was the extent of its range. Now we find that of the forty-eight states, twenty have from one to twenty-eight newspapers maintaining regular departments upon conservation affairs.

Declaring that the American Legion believes in conservation, Stafford King, speaking at the banquet, at which Dr. Lotus D. Coffman, president of the University of Minnesota, acted as toastmaster, told of the Legion proposal to create an International Memorial Forest, dedicated to peace, in northern Minnesota and southern Ontario, comprising the Quetico Park and the Superior National Forest.

"Here is the last frontier," he said, "home of the moose, where the woodland caribou still exists. Here is a vast area suitable as a game sanctuary and breeding ground. Here is a territory adapted to scientific forestry.

"We do not propose a National Park nor a closed forest.

We realize the value of the territory from the standpoint of health and recreation, of timber and wood-using industries. We have seen what has happened to all our other natural resources, destroyed by personal ambition upon the altar of greed. We oppose any further private exploitation of public property in the area affected and earnestly submit that no contemplated usage of water power therein could counterbalance the value of the native tract."

One of the outstanding features of the meeting was the luncheon of the Minnesota Forestry Association which was addressed by Mrs. James Thurston, chairman of the Conservation Committee, Minnesota Federation of Women's Clubs; Grover M. Conzet, Commissioner of Forestry of Minnesota; and Ray P. Speer, former president, Minnesota State Nurserymen's Association.

The Forestry Cup awarded by The American Forestry Association to the agency exhibiting the most effective educational material for the promotion of forestry was for the second time awarded the Western Forestry and Conservation Association, Portland, Oregon. The Association received the first award in 1928, the cup going to the Mississippi Forestry Commission in 1929.

More than fifty men and women made the field trip from Minneapolis to Cloquet, Minnesota, the greatest wood-conversion city in the world. After inspecting the mills and plants of the Weyerhaeuser Company the party visited the Cloquet Forest Experiment Station of the University of Minnesota where luncheon was served.

Resolutions Adopted at Annual Meeting

Rejection of the recent proposal to turn over the surface rights in the unreserved portions of the public domain to the several states in which these lands lie, endorsement of the Shipstead-Nolan, the Clarke-McNary, the Knutson-Vandenberg and the Englebright Bills, approval of forest tax reform, and an appeal for a more satisfactory situation in the production of forest planting stock, were among the outstanding resolutions adopted by The American Forestry Association at the annual meeting at Minneapolis, Minnesota.

The outstanding resolutions read as follows:

1. The American Forestry Association looks with disfavor on the recent proposal to turn over the surface rights in the unreserved portions of the Public Domain to the several states in which these lands lie.

Their surface values for the future depend largely on methods of handling which cannot be applied if they are broken up into state units, thus making any comprehensive and consistent system of management impossible.

The Association agrees with the opinion expressed in the May issue of *American Forests and Forest Life* by Dean Henry Solon Graves of the Yale Forest School, that these lands should be retained by the Government and administered by the trained forces of the Department of Agriculture, and that, in the words of Dean Graves, "The transfer to the states of the responsibility over the remaining national property not only would be unwise, but would be nothing less than a grave surrender of a public trust."

2. The American Forestry Association urges the American Nurserymen's Association either to withdraw its opposition to state nurseries for the production of forest planting stock, or take adequate measures to maintain supplies of this stock at prices comparable with those charged for publicly grown stock. We extend our good offices to bring about a solution of the present unsatisfactory situation and express our appreciation of the steps so far taken by the Minnesota Nurserymen's Association.

3. Recognizing that excessively high valuation and taxation of cut-over lands fit only for forest production constitutes today the greatest drawback to the restoration of forests by private owners and that this condition is due largely to shortsighted action of local taxing authorities prejudicial to the broader interests of the state and nation; The American Forestry Association approves the principle of forest tax reform under the control of state as against local authority as exemplified by the Wisconsin Forest Crop Law.

The Association also went on record as approving the program announced by the National Forest Reservation Commission to expend \$50,000,000 in ten years for the purchase of lands to add to the National Forests; it reaffirmed its opposition to every bill in Congress for admission to the National Park system of areas which fail to meet completely the accepted National Park standards; it endorsed the principles involved in the four bills now before Congress providing for the creation of Indian forests.



Enjoy the Wilderness Areas

A Scotch traveling salesman, held up in the Orkney Islands by a bad storm, telegraphed to his firm in Aberdeen: "Marooned here by a storm; wire instruction." The reply came collect: "Start summer vacation as from yesterday."—*Wroe's Writings.*

Paul Bunyan and Mr. Einstein

DEAR SAM:

My memory is getting a little poor and before it gets any worse I want to tell you about an incident that happened in Paul Bunyan's camp when I was handy man during the winter of the blue snow.

Paul had a lot of trouble that year getting his men up in the morning, so he got Johnny Inkslinger, the bookkeeper, who was mathematically inclined, to try out the echoes, which were rather remarkable in the region. Johnny took the cook's horn and, through his knowledge of billiards, learned to blow it toward the pyramid forty so that the sound would be deflected to a big rock at the head of Screw-auger Creek and thence back to camp in a definite number of hours. He could vary this direction and tone and control the time of the returned echo so that an hour's work each week would produce enough echoes to call the men at the proper time each morning.

Paul got interested and had Johnny work out his plan into "Bunyan's Echo Tables." Later a chap named Einstein got hold of the book and published it under some such name as "Relativity."

Yours for accuracy,

BROADAX PETE.

P. S.—One of the echoes hit a big pine and got deflected in 1843. The men all overslept that morning and Paul started to cuss. He was careless and some of his profanity echoed as far as the Cornish Coast where it is still heard occasionally. It is known by the superstitious fishermen around there as "Drakes Drum."

Carnivorous Campers

Question (in ranger study course): "What kinds of photographs are desired by the Forest Service?"

Ranger's answer: "Photographs of campers with sheep or cattle in them."

Recreation Note

"About all you can say for a picnic," declares the *New Haven Register*, "is that it doesn't cover as much ground as a camp fire."

Yeah, but think how it helps out the city garbage collectors!

Handling Him With Mittens

Ranger Pugh of the Minnesota Forest Service sends in the following to the *Smoke Screen*:

"Some time ago Patrolman Winterstein and I arrested a man for illegal fishing in Itasca Lake. On taking him to the justice, I left my mittens in his car and, knowing he had a friend in Park Rapids, I called said friend and had him write for my mittens. Attached is a note that came with the mittens. You will also note that I promised to go fishing with this fellow next summer."

The Note: "Am sending the mitts to you by parcel post. Tell our good friend who owns the mitts that I'm sorry if his hands got cold. However, if he would stay inside by the fire instead of cruising around on Lake Itasca in a Chevrolet his hands wouldn't get cold.

Also tell him not to forget that he promised to go fishing with me.

"P. S.—As one specialist to another, let me inform you that the guy who told you the game wardens in Itasca Park had gone south with the ducks is a cock-eyed liar."

Directions De Luxe

"How far do you live from town?"

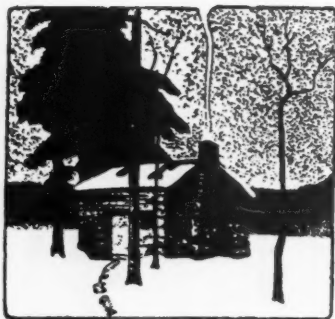
"Exactly ten gas stations, twelve hot dog stands, eight sandwich shacks, and 239 billboards."

—*California District News Letter.*

Somebody sent in this list of good places to be avoided by certain folks:

The Motorist.....	Blowout, Idaho
The Pessimist.....	Joy, Arkansas
The Roughneck.....	Niceville, Florida
The King.....	Republic, Washington
The Negro.....	Tombstone, Arizona
The Hobo.....	Works, Montana
The Prohibitionist.....	Barview, Oregon
The Teetotaler.....	Bend, Oregon
The Bolshevik.....	Flagstaff, Arizona
The Horsethief.....	Hanging Rock, Ohio
The Athlete.....	Tuff, Texas
The Logger.....	Burnt Woods, Oregon

And while you're about it, don't get too near Grub Gulch, California, if you're dieting.



Department of Science Education

Conducted by ELLIS C. PERSING

Natural Science Department, School of Education, Western Reserve University

How Teachers May Use Current Articles in This Magazine to Supplement Nature and Science-Study Textbooks Will Be Outlined in This Column Each Month by Professor Persing

THE suggestions for using the articles in this magazine will be given in a form that can be used directly by students and teachers in the upper elementary grades, the Junior High School and Senior High School. It is not our plan to displace textbooks in any field of subject matter but merely to suggest supplementary reading and visual materials which will enrich the present course and relate it to the experiences of the pupils.

Junior High School

Trees—"The War of the Cedars" by Bissell Brooke. (See page 325.) This article suggests possibilities for an interesting mock trial in which Jun I. Peri of Virginia is brought to court for threatening the health and happiness of Mr. Apple.

1. How does the red cedar injure the apple?
2. Must all the red cedars be destroyed in order to make the world safe for apples?
3. Are all the apples subject to attack?
4. Learn from your State Department of Agriculture regarding laws controlling the growing of red cedars near apple orchards.
5. Suggest a plan which would give red cedars a chance without interfering with the apple industry.

Fish—"The Tackle's the Thing," by Fritz Skagway. (See page 343.)

This article might as logically be listed under the heading *Manufacture*, but it contains some good pointers on the selection and care of fishing tackle.

1. Of what material is a good rod made and where is it secured?
2. How does the maker avoid a "whippy" rod?
3. Describe how to attach a new ferrule.
4. What woods are used in the making of artificial minnows?
5. What are the features of a good reel?

Birds—"Bird Sketching" by George Miksch Sutton. (See page 330.)

In connection with your study of bird life you will enjoy reading the experiences of Mr. Sutton in sketching a red-tailed hawk, a baby spotted sandpiper and other birds. Study the pictures carefully. What do they tell you about the habits of the species shown?

Outdoor Cooking—"The Outdoor Meal" by Betty Barclay. (See page 348, this issue.)

When you are planning your camping party for this summer, you should read this article. It will be a means of making you more comfortable and happy on your trip.

Here are some questions this article answers:

1. Should the outdoor meal be well balanced?
2. How can you obtain your food?
3. What are the acid-producers?

4. Why are oranges and lemons valuable foods?

5. Why is it dangerous to nibble at the wild plants and fruits?

Fire—"East Swept by Spring Forest Fires." (See page 354, this issue.)

There is a great lesson in this article which you will want to study closely and remember—the price of carelessness in the forest.

1. What is the cause of most of these early forest fires?
2. What can be done to prevent them?
3. What can you do?

Senior High School

Fishing—"Fishin'" by Charles Grenville Wilson. (See page 323,

this issue.) Here is a beautiful picture for your bulletin board and an article that you should read.

Eagle Scouts—"Eagle Scouts—Trail Builders" by William C. Wessel. (See page 333.)

Here is a very good suggestion for something to do.

Do you have nature trails in the vicinity of your school?

Can you answer these questions?

1. How did the Boy Scouts render service in Yellowstone National Park in 1924?
2. What parks had trails by 1929?
3. What have scouts done in

other parts of the country?

4. How did the scouts carry on their work in Glacier Park?

5. Why would you consider it an honor to be inducted into a tribe of Indians?

Forest Conservation—"Recording the Progress of Forestry" by Hel-muth Bay. (See page 357, this issue.)

In connection with your study of forestry you will want to know about the Rosenwald Museum of Science and Industry.

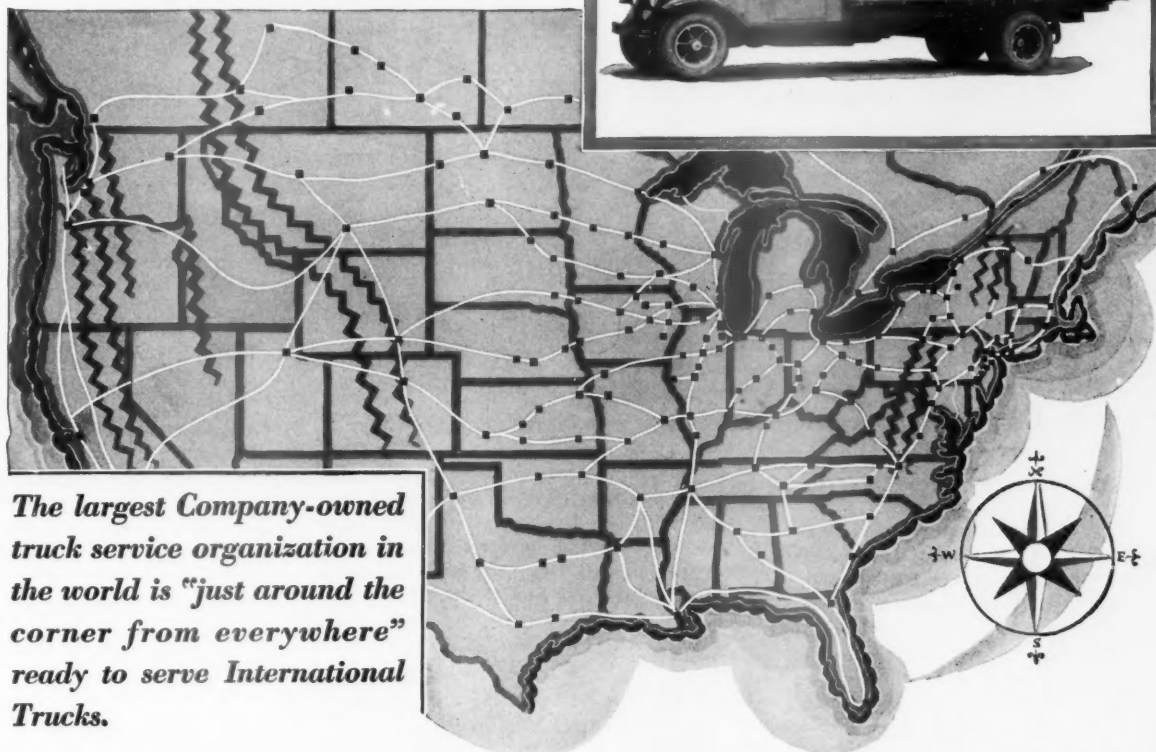
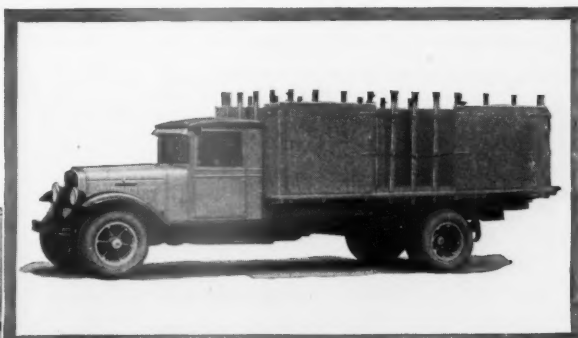
1. How can the question of conservation and economic treatment be solved?
2. What will be the function of the Museum of Science and Industry to be established in Chicago?

Trees—"The Canadian Willow Planter," by Alice Watts Hostetler. (See page 350, this issue.)

Here is a story of how one country boy has found a "cure for just such grief as the Mississippi caused on its 1927 tear." Here are some questions this article answers:

1. How does Mr. Scheifele aid in flood control?
2. Why does he use willow?
3. How does he plant the trees?
4. How does he propose to save money in removing silt from ports?
5. Why does he use *salix alba* for his work?
6. What will the willow do that no other trees will attempt?

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the factory itself would give him. Each branch has an extensive stock of factory-standard parts on hand for all emergencies, and every trained mechanic works on factory-standard methods with all the modern equipment good service demands.

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The American Forestry Association

State Parks Conference Endorses Federal Aid

Federal aid for the purchase of lands suitable for state parks was endorsed by the Board of Trustees of the National Conference on State Parks at a meeting in Washington on April 22. The resolution refers to bills introduced in the present Congress by Senator McNary and Representative Englebright (S. 3146 and H. R. 9051). These bills would create a Federal Aid Park Commission consisting of the Secretary of Interior, the Secretary of Agriculture and the Secretary of Labor, two members of the Senate and two members of the House of Representatives. The sum of \$5,000,000 a year would be authorized for this commission to cooperate with recognized authorities in the several states for the purchase of lands to be used as state parks.

Senator Walcott Chairman of Wild Life Committee

A Senate Committee on Conservation of Wild Life, consisting of Senator Frederic C. Walcott, of Connecticut, chairman; Senators Charles L. McNary, of Oregon, Peter Norbeck, of South Dakota, Key Pittman, of Nevada, and Harry B. Hawes, of Missouri, has been appointed by Vice-President Curtis as the result of the passage on April 17 of Senate Resolution 246. This resolution creates a committee of five Senators to investigate matters pertaining to the replacement and conservation of wild animal life, including aquatic and bird life, with a view to determining the most appropriate methods of carrying out such purposes. The bill provides that the committee may expend not more than \$20,000 for these studies and for the publication of their results, which must be completed in time to be reported to the Senate

soon after the beginning of the first regular session of the 72d Congress.

Before his election to the United States Senate, Senator Walcott was president of the Connecticut State Board of Fisheries and Game and chairman of the State Water Commission. He has long been active in building up and conserving the forests, water



Hon. Frederic C. Walcott

resources and wild life of his home state, and now grasps the opportunity to do the same for the nation. Senator Walcott is a life member of The American Forestry Association.

Land Purchases Authorized in Fifteen States

The purchase of areas totaling 422,737 acres, at an aggregate price of \$1,202,172,

was approved by the National Forest Reservation Commission at a meeting on May 17. This includes 539 separate offers of land, scattered over fifteen states, at an average price of \$2.84 an acre. The land is located in twenty-seven purchase units, in the states of Alabama, Arkansas, Minnesota, New Hampshire, Pennsylvania, North Carolina, South Carolina, Tennessee, Louisiana, Georgia, Florida, Wisconsin, Michigan, Virginia, and West Virginia.

The Commission also authorized new purchase units in the Cumberland area in Kentucky, the Kiamichi area in eastern Oklahoma adjoining the Ouachita National Forest in Arkansas, the Homochitto area in Mississippi, east of Natchez, and the Evangeline area in Louisiana, south of Alexandria. These acquisitions when consummated will bring the total area purchased under the Weeks law up to 4,125,000 acres.

The Commission consists of the Secretary of War, Patrick J. Hurley; the Secretary of the Interior, Ray Lyman Wilbur; the Secretary of Agriculture, Arthur M. Hyde; Senators Keyes of New Hampshire, and Harris of Georgia; and Representatives Hawley of Salem, Oregon, and Aswell of Natchitoches, Louisiana.

Hoover Plans Park Tour

President Hoover plans to tour the far western National Parks during his vacation this summer. Before going to his home at Palo Alto, California, he will motor through Glacier, Yellowstone, and Estes Parks. On the return trip to Washington he will visit the Yosemite National Park. The proposed trip will be the most extensive taken by a President of the United States since former President Harding went to Alaska.

(Eighth of a Series of Practical Forestry Discussions)

Extension of Public Forests



Watershed and recreational forest values should be conserved by public ownership



Super-marginal timber-growing forests are profitable in private ownership

THE total forest-growing area in the United States is estimated to exceed 500,000,000 acres. Of this, about one-fifth is now in permanent public ownership, by the Federal Government, the States, and smaller political units.

Many large areas in private ownership, in mountainous regions, are primarily of public rather than private value—for watershed, and to some extent for recreation purposes. Such public values can be properly conserved only by modification of ordinary commercial forestry practices, entailing increased costs which private capital should not be required to bear. Such forests logically belong in public ownership.

There are other large areas which have too low a productive capacity to be profitable in private ownership. Such sub-marginal forest lands, *to the extent, if any, required by the public's ascertained needs* for future timber supply, should be converted to public ownership.

Although opinion is practically unanimous that public forests should be greatly extended, opinions differ as to details. The National Lumber Manufacturers Association advocates a nation-wide, comprehensive program for public forest acquisition, co-ordinating clearly the federal and state responsibilities and defining the classes of land and the particular areas accordingly to be acquired.

National Lumber Manufacturers Association

Transportation Bldg.

Washington, D. C.

Forestry Program of the National Lumber Manufacturers Association Summarized

1. Intensive campaign to encourage every commercial forest owner to study carefully the economic timber-growing possibilities of his properties.
2. Encouragement to forest owners to study the economic advantages of selective logging and sustained yield methods and to apply them wherever practicable.
3. Expert advice to individual forest-land owners and to regional lumber manufacturers' associations to stimulate and direct forest economic studies of individual forest-land properties.
4. Acceleration of cooperative activities under the Clark-McNary and McSweeney-McNary Federal acts to eliminate methods of oppressive taxation, to extend effective protection against fires, to improve standards of wood utilization and to advance sound economic practice in forest conservation and replacement.
5. Development of plans for stabilization of the lumber industry and the orderly control of production.
6. Coordination of sales of Federal and State Forest timber with the activities of owners of adjacent private forest property.
7. Larger appropriations for the protection of National Forests.
8. Expansion of Federal, State and Municipal forest ownership.
9. Permanent reproductive administration of the Indian Reservation forests.
10. Education of the public to a more intelligent utilization of lumber and other forest products, and encouragement of public and private research in the utilization of logging and saw-mill by-products and diversification of wood uses.

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Maryland D. A. R.'s Win Forestry Prize

By ALICE PARET DORSEY

Maryland, with only twenty-five chapters and twelve hundred members, has been awarded the conservation prize for 1929 by the Daughters of the American Revolution. The award was made at the recent annual convention of the National Society at Washington, D. C., the Maryland chapters being recognized for their forestry activities.

While following many of the suggestions outlined by the National Committee in offering a yearly conservation award of \$50, Maryland's conservation work has been along individual lines. When, six years ago, the challenge came for the planting of "A Tree for Every D. A. R.," the state was one of the first to report its quota planted, planting her 1,149 five-year old white pine seedlings as a permanent memorial in the reservation surrounding historic old Fort Frederick, where the state is planning a model forest.

During 1929, in addition to the above annual planting, the Maryland chapters beautified the grounds of "Ye Coole Springs of St. Mary's," the site of the first "sanctarium" in America, and one of southern Maryland's most historic spots. Maryland D. A. R.'s also featured living Christmas trees as part of their conservation work.

A very different but interesting development

of the outdoor Christmas tree movement took place in Cambridge. Two years ago there was not a single lighted outdoor tree in the entire town. A year ago the local D. A. R. chapter inaugurated the movement and a few lighted trees resulted. Last year, after a drive, there were more than two hundred living Christmas trees in Cambridge.

In addition to tree-planting activities, Maryland D. A. R.'s were responsible for a traveling conservation exhibit, consisting of forestry bulletins and circulars, small posters and cartoons, newspaper and magazine clippings and pictures, photographs of interesting or historic trees, interesting material on birds and wild flowers. This collection has been shown before many organizations and to over sixty schools of Maryland.

These are only the highlights of the conservation activities of Maryland D. A. R.'s for the past year, as there are many other similarly important details spread out through preceding years.

Massachusetts Gives Forester Power to Declare Fire Emergency

Governor Frank G. Allen of Massachusetts signed a bill on May 14 declaring that in seasons of extreme drought the state forester may order the town forest wardens to institute special fire patrols. The cost of these patrols will be paid by the towns except as provided by another law. This law provides that after towns having a valuation of \$1,250,000 or less have spent the equivalent of one twentieth of one per cent of their assessed valuation for extinguishing forest fires, that the state will bear half the additional cost up to \$250.

Change in Boundaries of National Forest Districts

Modification of the boundary line between the Eastern and Lake States National Forest Districts has been announced by the United States Forest Service.

By the boundary changes effected, the Lake States District, formerly comprising the States of Minnesota, Wisconsin and Michigan, has been enlarged to include Iowa, Missouri, Illinois, Indiana and Ohio. The territory included in these states was transferred from the Eastern District, which still retains under its jurisdiction the New England, Atlantic Seaboard, South Central, and Gulf regions, and the Island of Porto Rico.

Wood-Utilization Meeting

"An encouraging feature of the annual meeting of the National Committee on Wood Utilization, held in Washington, D. C., on May 2," said Axel H. Oxholm, director of the committee, "was that consumers composed the majority of the attendance. It is not difficult to convince the producer of the value

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of wise use of wood, but it is to that vast number of consumers, ranging from farmers to architects and from pulp and paper and furniture manufacturers to engineers, that we must appeal."

R. P. Lamont, Secretary of Commerce and the committee's chairman, pointed out in his address to the meeting that, "The common interest which binds these groups together is the conservation and proper utilization of our forest resources."

The making available to the small consumer, as well as to railroads, of wood chemically treated to resist attack of decay and insects, and proper use of the gang saw were projects reported as successful and worthy of promotion. Building and construction—the field in which the largest amount of wood is used—fireproofing wood, and the use of small-dimension, end-matched and short-length lumber were important topics which held the attention of the hundred members of the committee in their determined efforts to encourage conservation and proper utilization of wood.

"Through its activity within the field of wood utilization, the National Committee on Wood Utilization is rendering a large service to forestry by encouraging the profitable use of forest crops and giving an incentive to commercial forest production," said R. Y. Stuart, Chief Forester of the United States Forest Service and, as vice-chairman of the committee, in charge of the meeting. "While its work centers in the wise and effective utilization of wood products," he added, "the committee's influence for good radiates to the forest resources themselves, since forest conservation is complementary to wood conservation. This mutuality of interest between wood utilization and forest utilization deserves emphasis, and greater cooperative effort."

Quinnipiac Forest Trail Open

The Quinnipiac Trail, the first completed portion of the trail system of the Connecticut Forest and Park Association, has been opened to the public. The actual trail construction was done by the Yale Outing Club, the Boy Scouts, and other volunteer workers.

North Carolina Completes Medal Contest

Hannah J. Cox, of Cullowhee High School Cullowhee, North Carolina, won the bronze medal offered by The American Forestry Association for an essay entitled "Develop a Suitable Woodland Taxation Policy for North Carolina." The contest was conducted under the auspices of the North Carolina Department of Conservation and Development. The Cullowhee High School will have the large medal mounted on a block of black walnut. In addition to the medal, Miss Cox received a cash prize from the North Carolina Department of Conservation and Development. Another medal has been given to Jesse Dudley, of Washington, North Carolina, for the outstanding essay submitted by a boy.



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Conservation Calendar in Congress

In introducing this monthly feature as a new service to the members of The American Forestry Association, the Editor invites comment as to its value.

LAWS PASSED

H. R. 4810—To add certain lands to the Helena National Forest in the State of Montana. Passed the House on March 17. Passed the Senate on April 17. Approved and signed by the President on April 23. Public Law No. 162.

H. R. 10379—Authorizing appropriations of \$12,500,000 for forest roads and trails. Passed the House on April 7. Passed the Senate on April 25. Approved and signed by the President on May 5. Public Law No. 179.

H. R. 3568—Revising the boundaries of the Yellowstone National Park. Passed House on February 3 and the Senate on April 15. Approved and signed by the President on April 19. Public Law No. 147.

H. R. 6343—Extending the boundary limits of the proposed Great Smoky Mountains National Park. Introduced by Representative Temple, of Pennsylvania, December 4. Referred to Committee on Public Lands. Reported to House, March 10. Report No. 867. Passed the House on April 11. Passed the Senate on April 16. Approved and signed by the President on April 19. Public Law No. 154.

H. R. 5619—Authorizing land exchanges within the Lassen Volcanic National Park for private lands adjoining the park. Introduced by Representative Englebright of California, December 2, 1929. Referred to Committee on Public Lands. Reported to House on February 21. Report No. 737. Passed House, April 7 and the Senate, April 14. Approved and signed by the President, April 19. Public Law No. 148.

H. R. 8763—Peavy—Authorizing the Secretary of the Interior to investigate and report to Congress on the advisability of establishing the Apostle Islands National Park in Wisconsin. Referred to Committee on Public Lands. Favorably reported, March 26. Passed House, April 21. Reported to Senate, April 21. Report No. 547. Passed the Senate, May 7. Approved and signed by the President May 9. Public Law No. 186.

H. R. 9183—To provide for the exercise of sole and exclusive jurisdiction by the United States over the Hawaii National Park in the Territory of Hawaii, and for other purposes. Introduced on January 27 by Mr. Houston. Reported to the House on February 20, Report No. 733. Passed the House on March 17; passed the Senate on April 14. Approved and signed by the President April 19. Public Law No. 156.

H. R. 156—To authorize the disposal of public land classified as temporarily or permanently unproductive on Federal irrigation projects. Reported to House on December 18, 1929. Report No. 68. Passed by the House on January 20. Reported to Senate on April 30. Report No. 580. Passed the Senate on May 12. Approved and signed by the President on May 16. Public Law No. 232.

H. R. 6874—To authorize exchanges of lands with owners of private land holdings within the Petrified Forest National Monument, Arizona. Reported to the House with an amendment on January 17. Report No. 264. Passed the House on February 17; passed the Senate, amended, April 14. Approved and signed by the President on May 14.

H. R. 3717—To add certain lands to the Fremont National Forest in the State of Oregon. Reported to the House on April 2. Report No. 1050. Passed the House on April 21. Reported to the Senate on May 5. Passed the Senate May 8. Approved and signed by the President on May 14.

H. R. 6121—To authorize the maintenance of central warehouses in national parks and national monuments and authorizing appropriations for the purchase of supplies and materials to be kept in said warehouses. Reported to the House on February 20. Report No. 731. Passed the House on March 17. Reported to the Senate on April 11. Passed the Senate on April 14. Approved and signed by the President on April 18. Public Law No. 145.

S. 9895—To establish the Carlsbad Caverns National Park in the State of New Mexico. Introduced by Representative Simms, of New Mexico, February 4. Referred to Committee on Public Lands. Favorably reported, March 20. Passed House, April 11. Reported to Senate, May 2. Passed Senate, May 8. Approved and signed by the President May 14.

H. R. 10581—For addition of lands to the Yosemite National Park, California. Introduced by Representative Englebright, of California, March 7. Referred to Committee on Public Lands. Favorably reported, April 2. Passed House, April 21. Reported to Senate, April 28. Passed Senate, May 7. Approved and signed by the President on May 9. Public Law No. 187.

H. R. 6564—Department of the Interior appropriation bill carrying appropriations for 1931 for the National Park Service, the Indian Service and the Office of Public Lands. Introduced by Representative

Cramton, of Michigan. Report No. 25. Hearings before House Committee. Passed the House, December 11; and Senate April 10. Sent to conference, April 11. Approved and signed by the President on May 14.

S. 4057—McNary—Authorizing the Secretary of the Interior to extend the time for cutting and removing timber upon certain revested and reconveyed lands in the State of Oregon. Passed Senate, May 7. Passed House, May 12. Approved and signed by the President May 19.

APPROPRIATIONS

H. R. 7491—Department of Agriculture bill, carrying appropriations for 1931 for the Forest Service, Biological Survey and conservation activities in other bureaus. Introduced by Representative Dickinson, of Iowa. Report No. 33 contains hearings before House Committee. Passed the House, December 20. Reported to the Senate, February 4 (Senate Report No. 151). Amended and passed the Senate, March 25. Sent to conference, April 23. Conference report adopted by both House and Senate May 20.

FORESTRY

S. 2354—George—To extend the provisions of the Agricultural Marketing Act to include naval stores. Passed Senate, April 14.

H. R. 3245—Authorizing an appropriation of \$4,500,000 for constructing permanent improvements on National Forests to provide more effective fire protection. Introduced by Representative Englebright, of California, May 23, 1929. Hearings before House Committee on Agriculture and Forestry, March 10, 12 and 13; published, April 4.

S. 3594—McNary—Similar to above bill. No further progress.

S. 3130—Oddie—Authorizing appropriation of \$500,000 annually for the control of emergency insect infestations on National Forests. No further progress.

H. R. 8804—Englebright—Bill similar to above. No further progress.

H. R. 5410—Authorizing appropriations to enlarge tree planting operations on National Forests. Introduced by Representative Knutson, of Minnesota, November 21, 1929. Hearings before House Committee on Agriculture, February 4. Hearings published. Reported, March 19. Passed the House with amendment on May 5, and vacated in favor of S. 3531.

S. 3531—Vandenberg—Bill similar to above. Report No. 375. Passed Senate April 14. Passed House amended, May 5. Senate disagrees to House amendment. Conferees appointed. Sent to conference May 14.

S. 2366—McNary—Increasing proportion of annual receipts on National Forests to be paid to the states. No further progress.

S. 62—Smoot—Promoting development, protection and utilization of National Forest



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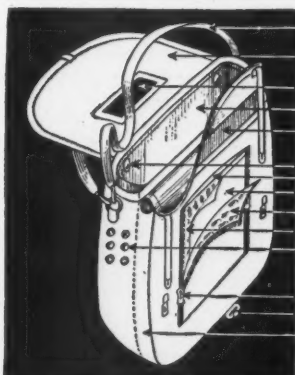
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resources, and to stabilize the livestock industry. No further progress.

S. 1190—Phipps—Bill similar to above. No further progress.

S. 940—Hawes—Creating an executive department of the government to be known as the Department of Conservation. No further progress.

S. 1594—King—Transferring the Forest Service and other bureaus of conservation to the Department of the Interior. No further progress.

S. J. Res. 101—King—Authorizing the President to call a conference on forest conservation and reforestation. No further progress.

S. 2498—Protection of forest lands in the Superior National Forest in northern Minnesota to the end that there may be developed the Superior-Quetico International Park. Known during the 70th Congress as the Shipstead-Newton bill. Introduced by Senator Shipstead, of Minnesota, December 4, 1929. Referred to Committee on Public Lands and Surveys. Favorably reported, March 27. Additional hearings granted. Reported with amendments April 25. Report No. 542. Passed Senate, May 7.

H. R. 6981—Bill similar to above, introduced by Representative Nolan, of Minnesota. Hearings before Public Lands Committee of the House, February 4-13. Published. Favorably reported, March 14.

H. R. 8968—Pittenger—Similar to S. 2498 and H. R. 6981 but covering a more restricted area. No further progress.

H. R. 9412—Leavitt—To construct a memorial to the leadership of Theodore Roosevelt. Passed House, April 7.

H. R. 10877—Clarke—Authorizing \$3,000,000 for the fiscal years 1932 and 1933 to purchase forest lands in the Eastern States as authorized by the Weeks law. Passed House, May 7.

S. 2244—Clarke—Bill similar to above. No further progress.

S. 2246—McNary—Amending the Clarke-McNary law so that forest industries and timberland owners may be given assistance. No further progress.

H. R. 3569—Fulmer—To permit a national land survey, and to extend the provisions of the Weeks Law. No further progress.

H. R. 6976—Fulmer—For establishing and operating a reforestation station in South Carolina. No further progress.

S. J. Res. 116—McNary—To extend the provisions of the Clarke-McNary law to Porto Rico. No further progress.

H. J. Res. 192—Davila—Bill similar to above. No further progress.

S. 122—Oddie—To amend the Clarke-McNary law to permit the distribution of co-operatively produced forest planting stock to all privately owned lands. No further progress.

S. 3775—Oddie—Authorizing appropriations of \$12,500,000 for forest roads and trails. Passed Senate, with amendment, April 7.

S. 3717—McNary—Authorizing the sale of lands in the Mt. Hood National Forest to the city of Portland, Oregon, for protecting the sources of its water supply. No further progress.

S. 3817—McNary—Authorizing expenditures for National Forest administration. Passed Senate April 14. Passed House May 20.

S. 2058—McNary—Granting one million acres of land in the National Forests within Oregon to the State of Oregon for the erection, equipment, and maintenance of public buildings. No further progress.

H. R. 11637—Authorizing use and occupancy of national forest lands for periods of not more than thirty years and for areas of not more than 160 acres for purposes of residence, recreation, education, industry and commerce. Introduced by Representative Haugen, of Iowa, April 14, and referred to the Committee on Agriculture.

PARKS

S. J. Res. 155—For naming of a prominent mountain or peak within the boundaries of Mt. McKinley National Park, Alaska, in honor of Carl Ben Eielson, for pioneer work in Alaska. Passed Senate, April 14. Reported to House, May 6.

H. R. 3867—Wingo—To establish the Ouachita National Park in Arkansas. No further progress.

H. R. 8163—Colton—To facilitate the administration of National Parks. No further progress.

S. 195—Nye—Bill similar to above. Passed Senate April 14. Passed House May 19.

S. 2318—Jones—To establish the Grand Coulee National Park in the State of Washington. No further progress.

H. R. 239—Sinclair—To establish the Killdeer Mountain National Park in North Dakota. No further progress.

S. 2173—Hayden—Bill similar to above. Senate Report No. 128. Passed Senate as H. R. 5672, April 1.

H. R. 8284—Cramton—Abolishing the Platt National Park, in Oklahoma. No further progress.

H. R. 8283—Cramton—Changing the name of the Platt National Park, in Oklahoma, to the Platt National Monument. No further progress.

H. R. 235—Sinclair—To establish the Roosevelt National Park in North Dakota. No further progress.

S. 326—Waterman—To establish the Royal Gorge National Park in Colorado. No further progress.

H. R. 8534—Hall—To transfer administration of the Sullys Hill National Park, in North Dakota, to the Department of Agriculture and maintain it as the Sullys Hill National Game Preserve. Referred to Committee on Public Lands. Favorably reported, March 25.

H. R. 4020—Haugen—Authorizing the Secretary of the Interior to investigate and

report on the advisability of establishing an Upper Mississippi National Park in Iowa. Reported to House, April 23. Report No. 1263. Passed House May 20.

H. R. 26—Authorizing the acquisition, establishment and development of the George Washington Memorial Parkway in the District of Columbia and in the adjoining states of Maryland and Virginia. Introduced by Representative Cramton, of Michigan. Passed the House, January 30. Referred to the Senate Committee on the District of Columbia. Hearings held in March. Reported with amendments to Senate, April 17. Report No. 458. Passed Senate as amended May 13. Referred to conference.

S. 3146—McNary—To aid in the establishment of State Parks. No further progress.

H. R. 9051—Englebright—Bill similar to above. No further progress.

H. R. 10584—Leavitt—Authorizing appropriations with which to establish nurseries and plant forest trees in Glacier National Park, Montana. No further progress.

S. 3960—Bill similar to above introduced by Senator Overman, of North Carolina, March 19. Referred to Committee on Public Lands and Surveys. Passed Senate April 14. Passage reconsidered and postponed April 16.

INDIAN AFFAIRS

S. 2489—Frazier—To provide for the estab-

lishment of the Colville Indian Forest.

S. 2490—Frazier—To provide for the establishment of the Klamath Indian Forest.

S. 2488—Frazier—To provide for the establishment of the Warm Springs Indian Forest.

S. 3166—Frazier—To provide for the establishment of the Yakima Indian Forest.

No further progress on any of above.

H. R. 6865, H. R. 6863, H. R. 6864, H. R. 8529—Similar bills introduced by Representative Leavitt of Montana. No further progress.

WILD LIFE

H. R. 9725—Sutherland—Amending Alaska game law. No further progress.

H. R. 243—Sutherland—For the experimental introduction into Alaska of a herd of musk oxen. No further progress.

S. 1551—Norbeck—Bill similar to above. No further progress.

S. 2908—Norbeck—Extending protection to the American eagle. Report No. 180. Passed Senate, April 7.

H. R. 7994—Andresen—Bill similar to above. Hearings published. No further progress.

H. R. 7405—White—Providing a five-year construction and maintenance program for the United States Bureau of Fisheries. Reported favorably, January 7. Report No. 110. Union Calendar No. 54. Passed

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\$200 in Prizes for Outdoor Photographs

The American Forestry Association, in announcing its Prize Contest for Outdoor Photographs, invites everyone in the United States and Canada, whether a member of the Association or not, to compete for the \$200 in cash prizes and other awards. Since one of the purposes of the Contest is to bring to light unusual photographs, the Association will accept several hundred photographs at regular rates in addition to the prize-winning photographs.

Any outdoor subject will be considered—trees, forests, reforestation, lumbering, wild life, hunting, fishing, exploration, and other phases of forest and tree life.

The Contest opens January 1, 1930, and closes at midnight October 1, 1930. Send in winter subjects now and follow up with spring and summer subjects. There is no limit to the number of photographs a contestant may submit.

PRIZES

First Prize.....	\$100
Second Prize.....	50
Third Prize.....	20
Fourth, Fifth and sixth prizes each	10
Seventh, eighth, ninth, and tenth prizes, each one year's subscription to American Forests and Forest Life.	

RULES OF CONTEST

The name and address of the photographer must be printed on the back of each photograph.

Enclose with each selection of photographs sufficient postage for return if not available. Unavailable photographs will be returned as soon as rejected by the judges, irrespective of closing date of the contest.

While every possible care will be taken, The American Forestry Association cannot be responsible for any photographs that may be lost through the mails or in handling.

Photographs previously published or sold to other magazines, newspapers, or periodicals cannot be considered. Upon the award of a prize or payment for a photograph, the contestant surrenders all publication right to The American Forestry Association. Do not submit negatives as they will not be considered.

Address all photographs to the Prize Contest Editor, The American Forestry Association, Lenox Building, Washington, D. C. Unless so addressed, photographs will be handled as regular material.

House April 16. Favorably reported to Senate, May 1. Report No. 583. Passed Senate, May 8. House agreed to Senate amendments May 13.

H. R. 5278—Haugen—The so-called "Bag Limit" bill. No further progress.

S. 3483—Norbeck—To carry out a ten-year cooperative program for control of predatory animals. No further progress.

H. R. 9599—Leavitt—Bill similar to above. No further progress.

H. R. 10422—Colton—Authorizing exchanges of lands in connection with the creation of wild-life reservations. No further progress.

S. Res. 212—McKellar—Requesting the Secretary of the Interior and the Secretary of Commerce to report on the possible projection of the newsprint industry into Alaska. Reports received by Senate, March 24.

H. R. 10625—Hudson—Regulating oil pollution of all navigable waters so as to protect fish and game. No further progress.

S. 4373—Similar to above. Introduced on May 6 by Senator Ransdell.

S. 1959—Authorizing the creation of game sanctuaries or refuges within the Ocala National Forest in Florida. Introduced by Senator Fletcher, of Florida, September 30, 1929. Referred to Committee on Agriculture and Forestry. Favorably reported February 12. Report No. 179. Passed Senate, April 7. Reported to House, April 30. Report No. 1344.

H. R. 10774—To establish a migratory bird refuge in the Cheyenne Bottoms, Kansas. Introduced by Representative Hope, of Kansas, March 14. Referred to Committee on Agriculture.

S. 3950—Bill similar to above introduced by Senator Allen, of Kansas, March 18. Referred to Committee on Agriculture and Forestry. Reported to Senate, April 23. Report No. 503. Passed Senate, May 7.

S. 941—To regulate interstate transportation of black bass. Introduced by Senator Hawes, of Missouri, January 6. Referred to Committee on Interstate Commerce. Report No. 75.

H. R. 9890—Bill similar to above, introduced by Representative Hudson, of Michigan. Referred to Committee on Interstate and Foreign Commerce. Hearings held, May 8.

MISCELLANEOUS

H. R. 11701—Authorizing the Secretary of War to cooperate with the several states in the construction of desirable reservoirs for impounding waters flowing into navigable streams, and authorizing \$25,000,000 for the first year, followed by \$50,000,000 a year for eight years, to discharge obligations incurred by the Federal Government. Introduced by Representative Garber, of Oklahoma, April 16, and referred to the Committee on Rivers and Harbors.

H. R. 11968—To reserve for public use scenic rocks, pinnacles, reefs and islands along the seacoast of Orange County, Calif. Introduced by Representative Swing, of

California, April 28, and referred to the Committee on Public Lands.

S. Con. Res. 23—Wagner—To establish an American Conservation Week. No further progress.

H. R. 9376—Sears—For a comprehensive system of flood control throughout the Mississippi Valley and the creation of a Federal Board of Public Works. No further progress.

H. R. 9722—Temple—Providing for the measurement of the discharge of the lower Mississippi River. No further progress.

S. 4015—To provide for plant patents. Introduced by Senator Townsend, of Delaware. Referred to Committee on Patents. Favorably reported, April 2. Passed by Senate, May 12; by House, May 13.

H. R. 9765—Purnell—Bill similar to above. Referred to Committee on Patents.

H. R. 6130—To exempt the Custer National Forest from the operation of the forest homestead law. Introduced by Representative Leavitt, of Montana, December 3, 1929. Referred to the Committee on Public Lands. Favorably reported, February 4. Report No. 609. Passed the House March 17 and the Senate amended, April 17. Sent to conference, April 22.

S. 532—Bill similar to above introduced by Senator Wheeler, of Montana, April 23, 1929. Referred to Committee on Public Lands and Surveys.



French Forester Studies Growth of Forests of the South

Captain Gabriel André, forestry inspector from France, came to America to attend the International Naval Stores Conference recently held in Jacksonville, Florida. While in the South he visited the young forests of slash and longleaf pine which now furnish the greater part of the world's supply of turpentine and rosin (naval stores). The French now rank as the second largest producers of these commodities. They had rather expected America to yield her leadership when the virgin pine stands of the South were exhausted.

The picture shows Captain André (left) as the guest of Dr. Austin Cary of the United States Forest Service.

THE NATIONAL FOREST NUMBER



The publishers of *American Forests* and *Forest Life* wish to remind both present and prospective advertisers of its forthcoming July issue—which will be devoted entirely to the *National Forests*. This number will be the most enlightening and colorful ever published on the subject, and will be illustrated with beautiful and unusual National Forest pictures. It will bring to its many readers National Forest history by the men who made it.

Advertising space must of necessity be limited, and, due to the heavy demand for space, early reservations are suggested.

For further information and a list of contents, write or wire.

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National Lumber Meeting

Commendation of President Hoover, Congress, and the Federal Bureau of the Budget in providing for 1931 appropriations for forest protection and research nearly \$3,000,000 more than in the previous year, was one of the outstanding features of the National Lumber Manufacturers Association at their annual meeting held in Chicago late in April. In addition, further rapid development of the provisions of the Clarke-McNary act was urged, as well as complete protection of the National Forests. Progress in forest conservation and perpetuation was noted and appreciation was expressed of the forestry work of the various organizations of the lumber industry.

Other decisions reached by members of the association were: Acceptance in principle of a comprehensive plan for the orderly control of lumber production and distribution; a committee of five being asked to report within two months on it and other features of primary importance to the lumber industry, such as steps to increase trade extension revenues and extend and intensify all trade extension activities; instructing of another committee to discuss plans for co-operation with lumber retailers; proposal for more extensive research into the properties and utilization of lumber, and endorsement of the idea of the establishment of a code of trade practices.

A. C. Dixon of Eugene, Oregon, general manager for Booth-Kelly Lumber Company, was elected president of the national association. Other officers for 1930 are E. A. Frost, Frost Lumber Industries, Shreveport, Louisiana, and R. B. White, president Exchange Sawmills Sales Company of Kansas City, Missouri, vice presidents; and W. M. Ritter, W. M. Ritter Lumber Company, Columbus, Ohio, vice president and treasurer.

Oregon Makes Forestry Progress

Oregon, with the greatest stands of timber in the United States, has become a leader in progressive forestry legislation, says F. A. Elliott, state forester, in his annual report. The taxation law, based on the principle of a low fixed annual land tax supplemented by a yield tax on forest products ultimately harvested, is said to be the most promising legislation of this character adopted.

Distribution of an increased number of seedlings to farmers of the state, the development of a forestry education program, and a campaign against blister rust were among the activities of the Oregon State Board of Forestry.

Ohio Gets Shade Tree Conference

The Sixth National Shade Tree Conference will be held in Cleveland, Ohio, August 27, 28, and 29. It will be attended by commercial tree experts, plant pathologists, entomologists, horticulturists, foresters and others engaged in scientific or regulatory work, who are particularly interested in shade tree problems.



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Ask the Forester?

Each Month Forestry Questions Submitted to the Association Will Be Answered in This Column. If an Immediate Reply is Desired a Self-Addressed, Stamped Envelope Should Accompany Letter.

QUESTION: Could you tell me if the sugar pine (*Pinus lambertiana*) is affected by the white pine blister rust?—P. G. H., California.

ANSWER: White pine blister rust attacks sugar pine as well as all other five needled pines. Reports reaching this office indicate that it is particularly fatal under the conditions existing in the West.

QUESTION: Is the wood of the tung oil nut tree valuable for pulpwood or rayon?—R. L. S., Mississippi.

ANSWER: There is little reason to expect that this tree will furnish any wood of value. It is slightly aromatic and the Chinese are reported to use it as a cabinet wood, similarly to our use of red cedar. The trees are planted far apart in rows in the same manner that orchard trees are planted. They do not grow large and are kept with low heads, so that the trunk is scarcely more than five feet long.

QUESTION: What is the fastest growing tree in Minnesota which will make the best pulp wood?—A. E. R., Arkansas.

ANSWER: This question was referred to Mr. Raphael Zon, Director of the Lake States Forest Experiment Station at St. Paul, Minnesota, who submits the following: "These requirements are conflicting because the best pulp timber species are not also the fastest growing. For pulp timber, white spruce, black spruce, hemlock, jack pine, and aspen are considered most desirable in the order named. However, jack pine and aspen are the fastest growing, and the spruces and hemlock much slower. Cottonwood, although limited to the river valleys and the southern part of the state, is more rapid growing than jack pine and aspen, but is not considered an important source of pulpwood. The choice of species which most nearly combine the features of rapid growth and desirability for pulpwood should lie between white spruce and jack pine."

QUESTION: Please let me know if any company would insure timber at a price that would not be prohibitive.—W. J. N., Georgia.

ANSWER: Only two companies are reported as writing forestry insurance in America at this time. These are the Home Insurance Company and its subsidiaries of 59 Maiden Lane, New York, and the Globe and Rutgers Company of 111 William Street, New York.

QUESTION: To what extent does Russia export forest products to the United States?—A. S. H., New York.

ANSWER: The United States Department of Commerce states that in 1927-28 the Amtorg Trading Corporation of Soviet Russia reported the manufacture of 5,127,000,000 board feet as compared with 4,933,664,000 board feet in 1926-27. Declared imports of Russian softwood lumber into the United States up to January 1, 1930, were 37,936,000 board feet, delivered largely to Providence, Rhode Island, and New York City. Reports have been received concerning negotiations between Japanese importers and Soviet authorities for the purchase of 264,000,000 feet of Siberian timber during 1930.

Senator Arthur H. Vandenberg, of Michigan, recently reported to the Senate that Finnish and Russian manufacturers furnished to American importers during 1929 about 5,000,000 board feet of birch and alder plywood.

QUESTION: Will the change from deciduous trees to coniferous trees, such as may be brought about by present tendencies in forest planting, have a harmful effect on wild bird life?—A. H. H., New York.

ANSWER: There is no reason to believe that any increased proportion of coniferous trees will have anything but a helpful effect upon birds. There remains ample opportunity for the growth of deciduous trees, especially those that bear edible seed. Coniferous trees, in addition to furnishing suitable nesting places, offer protection against the elements. Ground birds, such as pheasants and quail, need open fields, but they seek winter protection within and adjacent to stands of conifers. In spite of all efforts at forest planting there will remain for many years considerable areas of open grassland where these birds may feed.

Withdraw Boulder Dam Area

At the request of Secretary of the Interior Wilbur an area of approximately 4,212 square miles in the Boulder Dam region of Arizona and Nevada has been temporarily withdrawn from settlement by executive order, pending a thorough study of the lands to determine the best use to which they can be put from a broad national standpoint.

The withdrawn lands are all above the Boulder Dam and are tributary to the reservoir to be created thereby. Preliminary examination of the lands by a Department engineer shows them to be of greater public value from a scenic and scientific standpoint than for economic development, and it is believed that with the completion of the reservoir the region will offer unusual recreational opportunities.

Should the area measure up to expectations, recommendation will probably be made by the Secretary that at least part of it be established a national monument or some other special preserve to be developed and administered by the National Park Service under the jurisdiction of the Department of the Interior.

Science Honors Mather

Stephen T. Mather has been awarded posthumously the Public Welfare Medal of the American Academy of Sciences in recognition of his services as organizer and director of the National Park Service of the Department of the Interior. Dr. David White will present the medal to the legal representative of Mr. Mather.

West Virginia Association Meeting

At the meeting of the West Virginia Forestry Association, held in March in Charleston, the president, John Raine, emphasized the need of favorable taxation to promote the growing of forests. Measures were passed to authorize the writing of a long-time forestry policy for the state, the preparation of a brief on forest taxation, and the promotion of membership. It was recommended that the use of West Virginia hardwoods in public buildings be encouraged.

More Mexican Quail for North Carolina

A feature of the game restoration program being carried on by the North Carolina Department of Conservation and Development was the release in the various counties of more than 6,000 Mexican quail. This is the third year of distribution of these birds and the number is the largest released in any season since the inauguration of the practice. State Warden England believes that the importation of the quail has proved a worthy venture and has been instrumental in main-

taining the supply of this most popular of the game birds of the state. About 200 adult ring-neck pheasants have been placed in refuges that had not received allotments.

Six Million Hunters

Detailed figures for the hunting season 1927-1928 compiled by the Bureau of Biological Survey show substantial increases in number of licenses issued and fees received over the preceding three years. More than 6,450,000 hunting licenses for the taking of wild game were issued to sportsmen throughout the United States and Alaska, and the revenue to the states amounted to more than \$9,300,000. New York State, with 675,780 licenses and \$699,873 in money returns, and Pennsylvania, with 517,729 licenses and a revenue of \$1,006,159, headed the list.

Museums Meeting in June

The annual meeting of the American Association of Museums will be held at Buffalo, New York, June 4 to 7, inclusive, it has been announced. In addition to general sessions, the Buffalo Museum of Science, the Albright Art Gallery, and the museum of the Buffalo Historical Society will be visited.

Propose Memorial to Audubon

Prominent scientists and nature lovers recently appeared before the Senate Committee on the Library to urge the establishment of a national memorial to John James Audubon. Among them were Dr. T. Gilbert Pearson, of New York, president of the National Association of Audubon Societies; Dr. T. S. Palmer, president of the Audubon Society of Washington and vice-president of the national association; A. O. Stanley, Susan S. Towles, and Gibney Oscar Letcher of Kentucky. An appropriation of \$100,000 is authorized under the bill for construction of the proposed memorial.

Hunting Season for Alaska Bears

To remove any doubts as to the open season in Alaska for large brown and grizzly bears, the United States Biological Survey has announced the exact dates for both residents and nonresidents. The open season for nonresidents for hunting these big-game animals throughout Alaska is from September 1 to June 20. In certain areas along the Gulf of Alaska and on the Alaskan Peninsula residents of Alaska are restricted to the same dates, but elsewhere in the Territory after July 1 they will be permitted to hunt these bears at any time of the year. Nonresidents are limited to two bears a season and residents are similarly limited in the restricted areas, unless it becomes necessary to kill in defense of persons or property.

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—Mary Chase Cornelius.

State Park Conference in June

The National Conference on State Parks will hold its tenth annual meeting at Linville, North Carolina, from June 17 to 20. The program will be directed toward promoting progress in preserving the best of the scenic resources of the states and of the opportunities they now possess for simple, health-giving recreation. Local, county, state, and national governments will be urged to acquire additional land and water areas suitable for recreation, for the study of natural history and the preservation of wild life, as a form of conservation of natural resources. Three field trips, including one to inspect an area in which North Carolina proposes to establish a state park of approximately 50,000 acres, will supplement the program.

France Reduces Freight Rates for Colonial Woods

A reduction in freight rates on lumber from French colonies has recently been announced by the railway lines of France.

The purpose of the changes in the freight rates is to facilitate the importation of French colonial woods into France, by classifying colonial woods as "common" woods, which take lower rates, and by providing better transportation facilities for woods imported into France from French colonial possessions in Africa. One clause in the new railroad tariff provides for a reduction of ten per cent on freight rates when the distance between Bassens, a railway port, and the destination of the shipment is 248 miles or more.

The minimum of shipment is reduced from eight to six tons on okoume logs of certain sizes. Okoume is one of the most important French colonial woods. With the exception of persimmon, which is imported from the United States, the woods affected by the new freight rates are imported from tropical countries and from the colonial possessions of France.

Mountain to Be Named for Carl Ben Eielson

A resolution now before Congress would change the name of Copper Mountain in the Mount McKinley National Park, in Alaska, to Mount Eielson, in honor of Lieutenant Carl Ben Eielson who perished in November, 1929, while flying toward the coast of northern Siberia in response to distress calls from a shipwrecked vessel. The mountain is where Eielson landed the first airplane to arrive in Mount McKinley National Park. The resolution (S. J. Res. 155) was introduced by Senator Gerald Nye, of North Dakota, and passed by the Senate on April 14. On May 6 it was referred to the House calendar by Representative Paul J. Kvale, of Minnesota, and ordered printed.

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Write on one side of the paper only, and in the upper left-hand corner of the first page give your name, grade you teach, name of department, name and location of your school.

Manuscripts will not be returned unless accompanied by the necessary return postage.

The contest closes on June 1, and manuscripts mailed after that date will not be considered. All manuscripts should be addressed to

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Book News



and



Reviews

BUNYAN'S PROGRESS, by Edward Richard Jones. Published by the author at Madison, Wisconsin; 76 pages and illustrated.

Paul Bunyan in verse is the same Paul in prose, but lacks somewhat the "deacon seat" reverence. Mr. Jones gives us in rhyme many new stories to pass on, as well as some old ones. If one is a follower of the Blue Ox and has accompanied Paul on one of his Round River drives, this book will awaken new interest.—E. K.

Important economies in the upkeep of houses and other types of wood construction may be effected by the use of chemically treated lumber, says Axel H. Oxholm, director of the National Committee on Wood Utilization of the Department of Commerce, in announcing the release of the Committee's latest bulletin, "Treated Wood, Its Uses and Economies."

PIONEERS OF PLANT STUDY, by Ellison Hawks. The Macmillan Company, New York. Price \$4.

Physicians and surgeons will find here a large number of their profession who contributed to the growing science of botany. Not the least of these is Carolus Linnaeus. It was in the gardens of the University of Lund, in Sweden, where he had gone to study medicine, that he realized the possibilities in the field of systematic botany. But the author goes back to the early beginnings of plant recognition, and traces the contributions of early Egypt. Thence his studies carry him through Assyria and China, through the records of the Old Testament, the contributions of the old Greek scholars, and finally to the workers of the early nineteenth century.—G. H. C.

"Laboratory Exercises in Zoology," by William Morton Barrows. Published by the World Book Company, Yonkers, N. Y.—Thirty exercises in elementary zoology, outlined in much detail, and recommending the use of simple material such as can be available to a teacher in nearly any school.

Dr. Ernest E. Hubert, professor of forestry at the University of Idaho, has completed a study of laboratory methods used in testing the relative resistance of wood to decay, and has compiled a pamphlet on the subject, which is published by the University.

WHAT TREE IS THAT? by E. G. Cheney. Published by D. Appleton Company, New York, London. 188 pages; illustrated. Price \$2.

How many times when speeding along ribbon roads through various states, or when walking through quiet, peace-bringing woods, have you asked, "What tree is that?" Professor Cheney tells us in simple style that we may understand. On one page the reader will find a brief, explicit description of the tree, and on the opposite page an outline drawing of its bark, leaf, and all other distinguishing marks. We are also told in what states we may find different species.

We make friends among men through our love, knowledge and understanding of them. We could make friends among trees in the same way. Professor Cheney, in his book, has opened a door to the woods through which we may gain a deeper understanding of them.—P. F. G.

"Cork Oak, a Forest Tree with Possibilities for California," by Woodbridge Metcalf. Sacramento Region Citizens Council, P. O. Box 1273, Sacramento, California—This report reveals the fact that the United States imports annually more than 300,000,000 pounds of cork from Spain, Portugal, Algeria, France and Italy. Trees are stripped once a decade and yield approximately 2,000 pounds of cork an acre.

"Annual Cut, Consumption and Value of Forest Products in Vermont," by Robert M. Ross and Perry H. Merrill, Vermont Forestry Publication No. 32—The production of lumber and wood products in Vermont gives employment to 8,100 people in 550 plants and over 2,000 men in the woods. This is exclusive of those employed in pulp and paper mills. Following a discussion of detailed figures behind these statements is a directory of wood-using industries and another of sawmills.

"In the Maine Woods"—published by George M. Houghton, Bangor and Aroostook Railroad, Bangor, Maine—One hundred and sixty pages of description and illustrations of a vacation land of many attractions. It opens new territory to the regular Maine vacationist and offers many lures for the newcomer. With such a guide, the hunting, fishing and camping tourists should certainly find out why Maine is called the "vacation state."

GRAND CANYON COUNTRY, by M. R. Tillotson and Frank J. Taylor. Published by Stanford University Press, Stanford University, California. 100 pages, illustrated. Price \$2

Whether you have been to the Grand Canyon or only dream of seeing its grandeur, this is a book that will delight you. It possesses the ring of authority and the charm of vivid and entertaining style.

The story of this great marvel of the universe is told in its relation to people—the guests who visit there, the rangers who provide for their welfare and, more important, the welfare of the park, and the Indians who make it their home.—*A. W. H.*

"The Pennsylvania Horticultural Society"—printed in Philadelphia for the Society. This history is preceded by an introductory section covering horticultural events in and around Pennsylvania previous to 1827, the time of the formation of the Society. Divided into seven periods, each covering a certain phase of the development of the Society, the book goes on to describe its activities and the broadening of its work. The information has all been gleaned from the minutes of the Society and various of its publications, and has many interesting and authentic photographs, including those of its twenty presidents. The horticultural information incorporated as part of the records of the organization is of the greatest historical interest. It is all beautifully arranged in chronological order following official proceedings of the Society, so that one may follow smoothly along in acquainting himself, through this history, with the development and accomplishments of this interesting and important body which next year, on March 23, celebrates its one-hundredth anniversary of incorporation.

SERVICE MONOGRAPHS OF THE UNITED STATES GOVERNMENT—THE BUREAU OF BIOLOGICAL SURVEY, by Jenks Cameron. Published by the Brookings Institution, Washington, D. C. 349 pages. Price \$2.

The history, organization and activities of the Biological Survey are set forth in detail, while the author has traced in a peculiarly vivid way the influence of wild life in determining American character and national economy. It is a book of great importance and interest to the hunter, the fisherman, the agriculturist, and the stockraiser as well as to the public in general, for it opens new avenues of interest in the life histories, the habits, the ranges and distribution of wild animals and birds.—*E. K.*

"Visual Instruction in Nature Study," by Ernest L. Crandall, Director of Lectures and Visual Instruction in the New York City School System and President of the Visual Instruction Association of America. Pub-

lished by the Coca-Cola Company, Atlanta, Georgia.—Based on the premise that vision is a co-ordinator of our other sensory impressions, Dr. Crandall makes the statement that there would seem to be no subject in which visual education should play a larger part than nature study. This handbook of methods and materials for visual instruction is presented in conjunction with a remarkably complete set of nature study cards, done in colors.

Pocket Guide to Alaska Trees, by Raymond F. Taylor.—A non-technical booklet describing the 28 tree species of Alaska—the latest addition to the interesting series of pocket tree manuals being issued by the states. It is illustrated by line drawings made from specimens collected in Alaska and an interesting range map of Alaska's trees, showing distribution of principal species. For sale by the Superintendent of Documents, Washington, D. C. Price 15 cents.

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Named to Launch Alaskan Survey

The three commissioners named by President Hoover to recommend steps for improving governmental administration in Alaska are George Parks, governor of Alaska, Dennis Winn, of the Department of Commerce, and Charles H. Flory of the Department of Agriculture. These commissioners, long residents of Alaska, will determine whether recommendation could be made leading to the placing of more authority for the control of Alaska in that Territory rather than in Washington, and thus increasing the opportunity for the economic and commercial development of the Territory.

France to Plant Trees in War Against Floods

The Minister of Agriculture of France has sent instructions to local authorities for replanting forests with a view to preventing floods like the one in March which took a large toll of life and property in central and southern France. Reforestation is one of the features of the economic reconstruction plan announced by the premier. It is believed that replanting of the stripped forests will aid in preventing a repetition of the disaster.

Cloquet Withdraws Application for Forest

Applications for an auxiliary state forest of 172,400 acres in St. Louis County, Minnesota, were withdrawn on April 30, according to a statement from Mr. H. C. Hornby, President of the Northwest Paper Company, of Cloquet, Minnesota. The application made in June, 1929, was the first to be filed under Minnesota's auxiliary forest law. The county board had postponed action hoping to have the law amended to provide tax funds for the operation of schools and civil govern-

ment in the townships affected. Should such legislation be passed, officials of the lumber company have declared that the question of placing their lands under the auxiliary forest law may again be considered. By withdrawing their application these officials hope that the way may be cleared for the passing of satisfactory amendments.

Maryland Propagates Quail

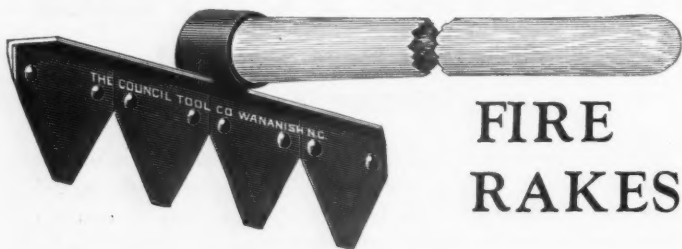
With the establishment of two plants for the propagation in electrical incubators and brooders of bob-white quail at Gwynnbrook and Salisbury, the Maryland Conservation Department hopes to increase the percentage of the propagation of this game bird during 1930. It is anticipated that not a single bantam or chicken hen will be used for hatching or rearing quail this year, the incubator hatching the eggs and the little birds being transferred to elevated brooder coops electrically heated.

Michigan's Forestry Exhibit Train

A forestry exhibition train, featuring methods of planting idle lands to trees, was recently run through counties in Michigan. Actual plantings in miniature, control of blow sands, windbreak planting, fire prevention, reforestation along public highways, and proper handling of the farm woodlot were demonstrated. There were displays featuring that new organization for rural boys and girls, the Michigan 4-H Forest Rangers; live game and predatory animals; and uses of wood, especially the possibilities of growing white spruce for paper. Experts accompanying the train gave short illustrated talks and moving pictures. The project was sponsored by the Extension Department of Michigan State College.

Chemist Announces New Types of Cellulose-Producing Trees

Fourteen new types of cellulose-producing trees have been developed by Dr. Ralph H. McKee, professor of chemical engineering at Columbia University, New York, with the aid of arboriculturists. These trees, it is said, will yield on an acre of cheap mountain land each year a crop three times as valuable as can be obtained from wheat or corn on the richest of soils. Any of the new hybrids will grow in eight years to the size of natural poplars at forty-five years, and the fiber of their pulp is of better quality than is now obtainable in natural poplar trees. Seedlings planted at an expense of about \$5 an acre on cheap mountain soil would yield in eight years a crop of pulp wood which could be sold as it stood for \$600. The value of wheat produced on an acre of expensive farm land would be about \$240 for this same period. In Dr. McKee's opinion, 6,000,000 acres in New York State can be reclaimed and put to profitable use and might bring about the return to the state of the hundreds of factories which have moved to places closer to the pulp supply.



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Colorado Offers Pulpwood

Two million cords of pulpwood in the Rio Grande and San Juan National Forests, Colorado, have been offered for sale to the highest bidder by the United States Forest Service, thus entering that state for the first time in the field of large-scale production of pulpwood. The total annual cut on the National Forests of Colorado will be increased approximately 50 per cent under the contracts offered; but, according to foresters, a 400 per cent increase in the cut can be made without removing more timber than the natural growth will replace. The operation has been planned according to scientific forestation in order that it can continue indefinitely, covering in rotation a number of tracts large enough so that after the cutting of the last tract the first will be ready with a second crop.

Sweden Sets Pulp Record

Sweden established new records for production and exports in the chemical pulp industry in 1929. With few exceptions the different mills were able to continue in operation throughout the year, the output exceeding that for 1927, the previous record year, by 35,000 tons of bleached sulphite, 55,000 tons of unbleached sulphite, and about 197,000 tons of sulphate. These figures represented increases of 42½ per cent, 26½ per cent, and 53¾ per cent respectively over the preceding year's output. At the same time exports of bleached sulphite pulp showed an increase of 38 per cent, unbleached sulphite 32 per cent, and sulphate pulp 53 per cent.

12,000,000-Year-Old Redwood Found in Washington

A piece of seven-foot tree buried 150 feet below the bed of the Yakima River, Washington, and estimated to be 12,000,000 years old was recently identified at the United States Forest Products Laboratory, at Madison, Wisconsin, as a species of sequoia, or redwood.

The wood specimen, taken from a log encountered in a United States Reclamation Service tunnel being driven under the Yakima River between Ellensburg and Cle Elum, was sent to Arthur Koehler, wood identification expert of the Forest Products Laboratory, by John P. Thomson of Ellensburg. According to Mr. Thomson the tree was found in solid basalt believed to have been poured out of one of the Columbia Plateau volcanoes.

"Only diligent microscopic examination would make it possible to distinguish this wood from modern redwood," was Mr. Koehler's report on the fragment of ancient wood. The wood is too friable to be sliced thin for microscopic examination, but examination of the whole piece with a hand lens leaves no doubt of its close kinship with the redwood of today.

According to Mr. Koehler the presence of a buried sequoia far from the present habitat of the species is not surprising. "The red-

woods," he states, "have not always been confined to a narrow strip in California but thrived at one time throughout what is now the United States, Canada, Alaska, Greenland, Europe, and northern Asia—in short, wherever the climate best suited to their needs then prevailed. Fossil sequoia cones were found in rocks and swamp deposits in Europe in the nineteenth century before the only living representatives of the species in California were known to the white man.

"Although changes in climate and geological conditions have forced the sequoias to retreat until they are literally backed up against the ocean, they are in no apparent danger of going the way of the dodo and the dinosaur. They grow rapidly and reproduce themselves readily. In fact, the redwood is the only coniferous tree that sprouts from the stump after logging."

Civil Service Positions

The United States Civil Service Commission has announced the following open competitive examinations:

Principal forest economist, \$5,600 to \$6,400 a year; senior forest economist, \$4,600 to \$5,200 a year; forest economist, \$3,800 to \$4,400 a year; associate forest economist, \$3,200 to \$3,700 a year; assistant forest economist, \$2,600 to \$3,100 a year. Applications for these examinations, which will fill vacancies in the United States Forest Service, must be on file with the Civil Service Commission at Washington, D. C., not later than May 28, 1930.

Examinations for assistant leader, predatory animal control, at \$2,000 to \$2,500 a year and junior leader at \$1,620 to \$1,920 to fill vacancies in the United States Bureau of Biological Survey, were also announced. Applications should be filed not later than June 10, 1930.

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Louisiana Establishes Summer Course in Forestry

The Department of Forestry of Louisiana State University at Baton Rouge offers a special forestry course on the school forest near Bogalusa, beginning June 11. The course will cover, briefly, methods of handling woodlands, reforestation, forest protection and timber estimating. Field work will occupy most of the time of the students, but buildings are available for class work. The camp is equipped to offer thirty students living facilities including dormitory, dining room and shower baths.

Montana Forest School to Give Wood-Utilization Course

Believing that emphasis must be given profitable wood utilization, a Forest Products Laboratory will be established at Montana University, Dean T. C. Spaulding of the Forest School of the university announces. Especial attention will be given to the woods of what is known as the Inland Empire region. "Production of wood must go hand in hand with a better and more profitable utilization," he says. "To obtain a profit-bearing operation means new uses, elimination of waste, and the establishment of by-products plants in connection with milling enterprises." A mill-type building will be erected to house heavy equipment, such as experimental kilns, testing machines and distillation apparatus; and chemical laboratories will be made available. The new school will cooperate with the research work of the United States Forest Products Laboratory.

4-H Forestry Grows in New York

During 1929, 955 boys and girls enrolled for the first year's work in forest planting, as conducted by Professor J. A. Cope, Extension Forester for the New York State College of Agriculture at Cornell. This compares favorably with 775 registered for similar work in 1928. Thirteen counties in New York State helped stimulate forest planting by making available prizes in the form of cash and medals amounting to \$236.

Nature Leader's Training Camp

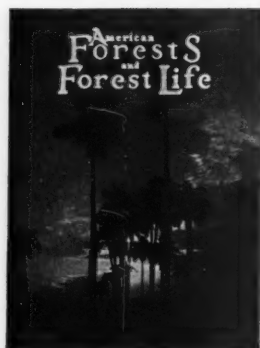
The Coordinating Council on Nature Activities announces that the third nature training school will be held at Camp Talualac and Camp Akiwa, near Arden, New York, June 7-20, 1930. The courses of study will feature geology, plant study, animal life, insect life, photography, music, art and astronomy. Inquiry regarding the camps should be addressed to Dr. Bertha Chapman Cady, Hamilton Grange School, Riverside Drive at 147th Street, New York City.

Indiana Distributes Young Trees

More than half a million trees will go to farmers and land owners in every county in Indiana this spring to aid in the reforestation of waste and idle acres. Evergreens are in the majority, numbering 380,135. It is estimated that the state nursery at Henryville will supply the needs of 300 farmers as well as a number of sportsmen's clubs and coal corporations engaged in tree-planting programs on cut-over and idle lands. Ralph F. Wilcox, State Forester, says that next year the nursery will be able to supply a million trees.

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Road Beautification in England

By E. P. KEELY

The construction of new arterial roads in all parts of England, which has been proceeding since the war, and which is likely to be accelerated in the near future, has led to a determined attempt by the Roads Beautifying Association to insure that they shall not stretch like gaunt ribbons across the countryside, without tree or shrub to cover their bleakness. One of the prime movers in the association is Lord Ullswater, until recently Speaker of the House of Commons, and a great deal of good work has been done.

Trees and shrubs have been planted, and attempts have been made to insure that local authorities do everything possible to stop the building of ugly cottages within sight of the roads, and to prevent the unnecessary cutting down of established trees where widening processes are going on. The chief difficulty encountered is from the public, particularly in the neighborhood of the large towns. In some cases newly planted trees have been removed bodily, while attempts to plant bluebells and daffodils beside the roads have resulted in the theft of thousands of bulbs. An endeavor is to be made to invoke the more drastic assistance of the law in dealing with this kind of vandalism.

Rubber Trees in Florida Are Making Good Growth

The Brazilian rubber tree has made rapid growth in Florida in the last two seasons, says Dr. O. F. Cook, of the United States Department of Agriculture. Many of the young trees in the department's experimental work have reached a height of fifteen feet or more. They are of the same species of Hevea that is planted extensively in the East Indies and in other tropical countries.

These trees are being grown at Chapman Field, near Miami, in the extreme southern part of Florida. Many other rubber plants from all of the principal rubber-growing countries of the world are being tried there in a limited way. A number of these plants are now being grown in southern Florida.

No frost injuries occurred in the winter of 1928-29, and some of the Hevea trees with slat-house protection continued to grow, even during periods of cold weather. Doctor Cook says this indicates that the Hevea is much more resistant to cold than has been supposed and that the development of strains sufficiently hardy to grow readily in southern Florida is possible. The Chapman Field location is near the coast, but with protection against the sea breeze, the young Hevea trees have grown as rapidly in Florida as in Haiti.

Experiments with rubber-producing plants are being carried on in California, Arizona, Florida, Cuba, Honduras, Haiti, Panama, and the Canal Zone. Tapping experiments conducted on a group of Hevea trees in Haiti for the past four years show that yields of rubber are comparable with those reported from similar experiments in the East Indies.

Senate Would Reorganize Federal Power Commission

Reorganization of the Federal Power Commission was ordered by the Senate May 12 when it unanimously passed a bill (S. 3619) to create a new body to consist of three members appointed by the President and confirmed by the Senate. The bill was introduced by Senator Couzens of Michigan, chairman of the Interstate Commerce Committee. The Commission, which would supplant the existing Commission comprised of the Secretaries of Interior, War and Agriculture, is to be named for terms of 2, 4 and 6 years. The Commissioners will serve for six years at salaries of \$10,000 per annum. The first chairman is to be designated by the President and thereafter elected by the Commission.

The bill was drawn after extensive hearings during which efforts were made to show the desirability of the present form of organization. This permits engineers employed by the Departments of the Interior, War and Agriculture to be detailed to the work of the Federal Power Commission. Cooperation of this character, conducted by engineers of the Forest Service and the National Park Service, has resulted in material savings to the government. The new plan is expected to make the personnel of the Commission more stable.

A similar bill (H. R. 11408) has been introduced in the House by Representative Parker of New York.

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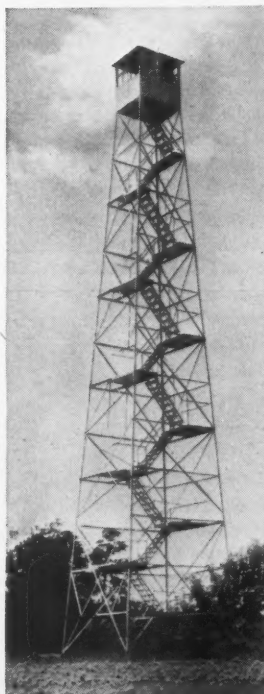
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"WHO'S WHO" AMONG THE AUTHORS IN THIS ISSUE

CHARLES GREENVILLE WILSON, poet and writer, lives in Kingfield, Maine, when he is not traveling abroad. "This little village," he writes, "except for automobiles, still preserves the charm of early America, and here, to quote Admiral John Paul Jones, one may still exist 'in calm contemplation and poetic ease.'"



Charles G. Wilson

HELMUTH BAY is Research Associate in Forestry of the Museum of Science and Industry, Chicago, Illinois, founded by Julius Rosenwald.

BISSELL BROOKE is a feature and short story writer of Baltimore, Maryland. She was educated at Goucher College and has been connected with the staff of both the Baltimore *News* and the Baltimore *Sun*. Recently she visited thirteen European countries. "It wasn't a Cook's tour by any means," she writes, "for I was covering a number of assignments



Bissell Brooke

for newspapers and magazines. My experiences, especially in the Balkan States, are still very vivid to me." Miss Brooke is also well known as a short story writer.

GEORGE MIKSCH SUTTON is State Ornithologist of Pennsylvania and Chief of the Bureau of Research and Information of the Pennsylvania State Game Commission. A native of Nebraska, he writes that he has always been interested in wild life and particularly in bird painting. He has made bird studies in Pennsylvania, Texas and Florida in addition to a number of expeditions to the Labrador Peninsula. He recently published a book on the birds of Pennsylvania. As a result of his untiring study of Pymatuning Swamp, one of the mysterious workings of nature in Pennsylvania, he has won the title of "Angel of Pymatuning."



George M. Sutton

FRITZ SKAGWAY, a native of northern Michigan, grew up among the lumberjacks and river hogs, he says, in the pine and hardwood forests at the head of the Au Sable River. Always an observing student of nature and wild creatures, he writes that he "lives only to visit my log cabin on the shore of Guthrie Lake near my birthplace, making occasional forays into Alaska, British Columbia and the Arctic to fish and hunt." At his home near Detroit he maintains a feeding station for improvident quail, bluejays and woodpeckers, and writes feature stories for Detroit newspapers.



Fritz Skagway

BETTY BARCLAY makes her home in Philadelphia, Pennsylvania, but devotes a good part of her time to camping and the outdoors.

Assistant National Camp Director of the Boy Scouts of America, WILLIAM C. WESSEL, is developing forestry work in more than six hundred Boy Scout camps. "Some of our reforestation reservations rank in size from three to ten thousand acres," he writes. "Last year 1,000,000 seedlings were planted in our various camps." He says that his own reservation of 140 acres in New Jersey on which he is conducting experimental



William C. Wessel

work in forestry is his greatest hobby. Educated at Harvard University and the New York State College of Forestry, he was at one time connected with the United States Bureau of Plant Pathology, and served as wood technologist in the Signal Corps. Mr. Wessel's activities carry him into practically every state in the union. He has attended two World Scout Jamborees, which has enabled him to study scoutcraft as well as forestry in England, Denmark, Germany and Switzerland.

ETHEL ROMIG FULLER has contributed generously in both verse and prose to the outdoors. A keen student of nature, she has explored a great part of the forest areas of the Northwest. She makes her home at Portland, Oregon.

ALICE WATTS HOSTETLER, of Washington, D. C., is a staff writer of *AMERICAN FORESTS* AND *FOREST LIFE*.

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NELSON C. BROWN
Acting Dean

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GOLDEN
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1930

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